New products 2009

Cables, connectors, components

ÖLFLEX® 50 YEARS THE ORIGINAL SINCE 1959

LAPP GROUP

The Lapp Group

Headquarters in Stuttgart

Lapp-Center in Stuttgart

The Lapp Group provides a complete range of cables for all manner of industries and markets. Sourcing from a single supplier means competent advice and consistently high quality down to the last detail for designers, planners and manufacturers. Not only that, they can also be sure that all components are perfectly harmonised and enjoy fast, hassle-free ordering. Lapp Group's products are predominantly manufactured in the Lapp Group's own production plants.

Over 40,000 different standard products are currently available off the shelf. In addition, special cables are developed and produced to create individual customer solutions.

To contact your local Lapp Group representative please visit
www.lappgroup.com/worldwide

Cover photo:
One Big Family: All over the world Lapp emloyees will achieve the best for you.

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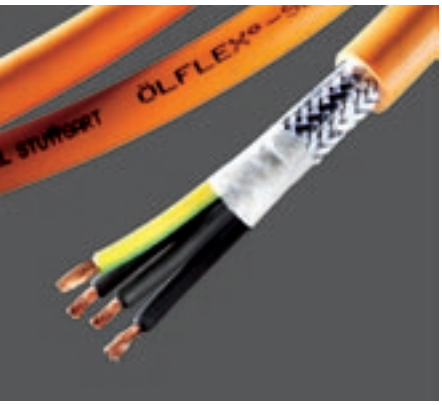
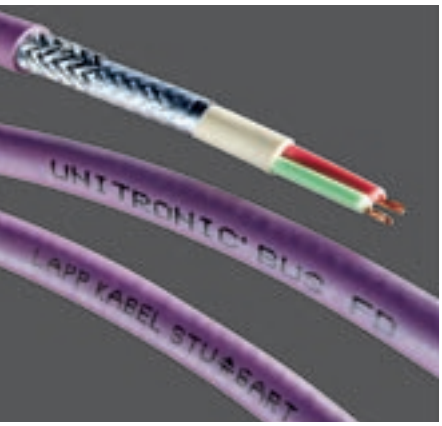


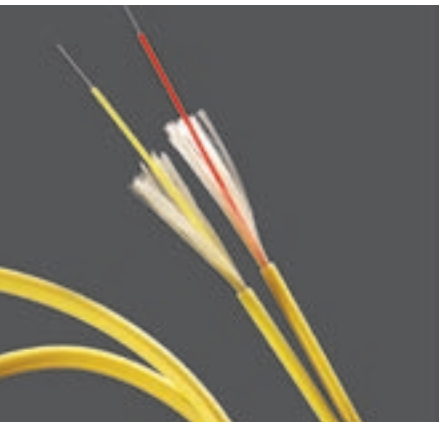
ÖLFLEX® Power- and control cables

ÖLFLEX® is used in machinery, machine tools, system and appliance engineering, measuring, control, heating and air conditioning technologies. For permanent connections or in cable chains, halogen-free or internationally certified, you can choose from our comprehensive range of standard products.



UNITRONIC® Data communication systems

Lapp produces a full range of data cables for fast and secure transfers of large volumes of data. From machine electronics and bus systems to super-fast LAN data networks or highly-versatile applications: We have the data cables you need for virtually any situation.



HITRONIC® Optical transmission systems

HITRONIC® fibre optic cables are designed to transfer large volumes of data. Communications media via fibre optics are fast, efficient, and secure. Not even electromagnetic interference can affect **HITRONIC®** fibre optic cable. The **HITRONIC®** range of products includes cables for office communications, industrial applications, simplex, duplex, hybrid wiring, or cable chain applications.

SKINTOP® Cable glands

SKINTOP® cable glands guarantee secure connections every time. Simply thread the cable and twist. That's all! Your cables are perfectly centered, secured, hermetically sealed, and ready for action. Choose from a wide range of models in plastic or brass, for EX and EMC applications, halogen-free types or anti-kink protection, metric, PG or NPT.

Our international brands

SILVYN® Protective cable conduit systems and cable carrier systems

In many applications cables have to be additionally protected against mechanical and chemical stress. For this type of application, Lapp Group can supply the universal **SILVYN®** protective cable conduit program. Cable conduits manufactured from metal or plastic material, which can be used with matching glands to form a perfect system connection. The complete system results in all round protection for cables in indoor and outdoor installations.
With **SILVYN® CHAIN**, Lapp Group's widely variable programme of power chains we offer both cable protection and guidance for highly dynamic applications.

FLEXIMARK® Cable marking products

Labels on single cores, cables, and control cabinets need to remain legible for years to come. This is the best way to keep things well organized and avoid potential problems. From plastic to durable stainless steel, manual or electronic identification, with **FLEXIMARK®** you can be sure that your labels will last a lifetime.

EPIC® Industrial connectors

When we talk about secure connections, you can take us at our word. **EPIC®** industrial connectors produce an absolutely secure connection in combination with ÖLFLEX® cables. We provide the right contact for all your needs: From rectangular or circular connectors, to housings, inserts, contacts and accessories, bus or fibre optic cable applications.

ETHERLINE® Data communication systems for ETHERNET-Technology

The Lapp Group is now in a position to offer comprehensive system solutions in the field of industrial networking. Its Factory Automation division supplies active network components that are used to supplement existing cable and plug technologies. These include services and security systems incorporating firewall solutions, in addition to distribution components such as switches, routers, cables and plug connectors. For its industrial customers, all of this means that a solution from the Lapp Group represents a considerable step forward in terms of security, safety and availability.

A full range of products for your sensor and actuator wiring requirements

Sensor-/Actuator wiring Requirements

There is a trend in mechanical and plant engineering towards decentralised control systems. In these applications, the entire wiring system and infrastructure for signal transmission consists of passive field bus modules for the Sensor-/Actuator level. Passive distribution systems are an important building block of plant and machine installations. They connect all of the peripheral devices and systems with the controls.
A passive system consists of distribution boxes, cables, ready-made connectors, sockets and wall ducts. The modular design of a passive system facilitates installation and commissioning. Servicing times are also significantly reduced.

Sensor-/Actuator Cables

We supply a comprehensive range of ready-made cables with M8, M12 and valve plug connections which allow sensor and actuator wiring to be completed rapidly in the field. Sensor-/Actuator cable variants equipped with LEDs can be used to allow easy monitoring of signal states.

Versions with shielded lines can be used for applications subject to increased electromagnetic compatibility (EMC) requirements.

Sensor-/Actuator Boxes

Sensor-/Actuator boxes with M8 or M12 connections are available as decentralised nodes. The M8 boxes are available with 4, 6, 8 or 10 slots.
The M12 boxes are available with 4 or 8 slots and with dual assignment capability for connecting two Sensor-/Actuator lines per slot.
LEDs indicate the switching states of the inputs and outputs.

For the trunk cable there is the option of plug-in screw connections, the use of ready-made M12 and M16 connecting cables or the use of boxes with integrated trunk cabling.

Panel Connectors for Sensors/Actuators and Field Wireable Connectors

M8 and M12 panel connectors with integrated stranded wire for PCB connection are available for connecting devices.

Flexibly wireable connectors can be used for rapid field wiring of individual lengths of cable for M8 and M12 Sensor-/Actuator connections. Both screw connections and quick-connect couplings are available.

Fieldbus based sensor/actuator cabling

Sensor/actuator boxes

Sensor/actuator boxes with the standardized connection technology provide connections to all commercially available sensors and actuators and are the solution for decentralizing small numbers of I/O's. Sensor/actuator boxes can be connected to the Profibus, DeviceNet™ and CANopen fieldbus systems. Regardless of whether you are installing them on profiles, on flat surfaces or under rough conditions – the assembly concept ensures flexibility and reduces the installation costs. The devices enable assembly in two directions and are thus suitable for every application. The arrangement of connectors minimizes the installation time even under rough conditions.

AS-i boxes – Easy cabling in the lower field level

The AS-i devices were designed for efficiently networking sensors and actuators in the AS-i network and allow for fast and safe installation with tool-free contacting. AS-i devices can be installed quickly and easily. The locking mechanism allows a tool-free connection to the AS-i flat conductors. They are pressed into the corresponding guide aids and the module electronics are moved forward. The devices are connected to the AS-i flat conductors using the penetration technique by snapping the hinged section into place.

Accessories

A comprehensive range of cables, T distributors, termination resistors, free assembly plugs and accessories is available for the quick cabling of sensors and actuators in the field.

Lapp products learn how to talk

Lapp RFID - New product highlights by Lapp

The latest innovation from Lapp Kabel is ready for launch under the motto „Lapp products learn how to talk“. Lapp Kabel has combined its cable and connector technology with an RFID system.

What is RFID?

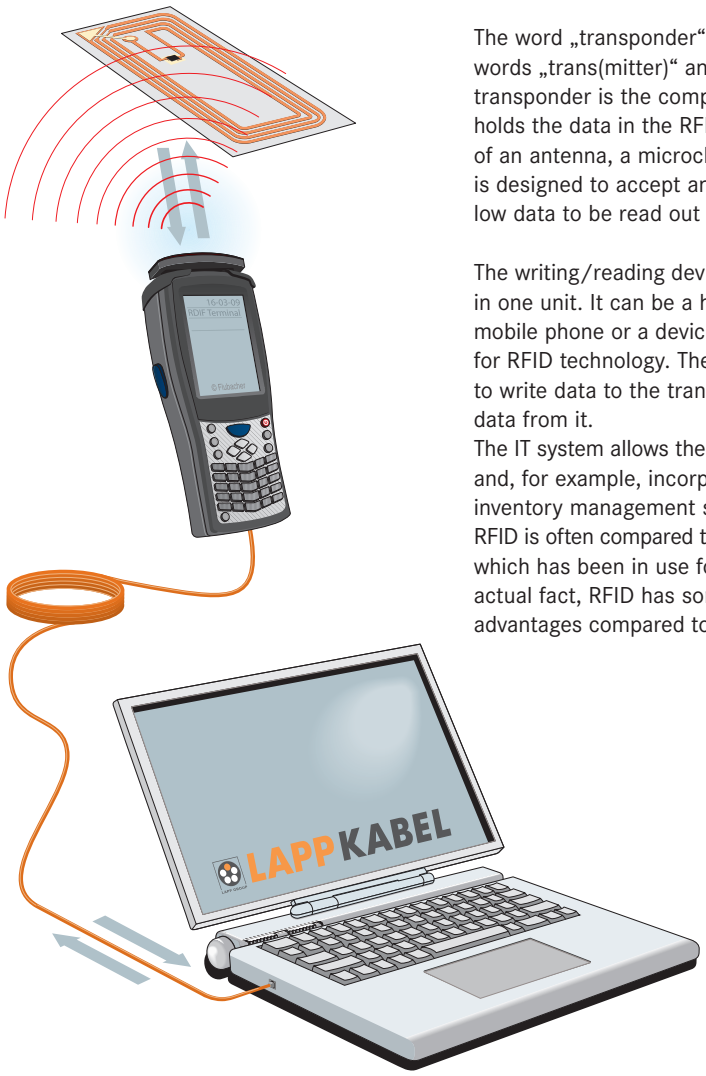
RFID stands for „Radio Frequency Identification“. This technology uses radio waves to transfer data. The scanner does not have to contact the RFID tag and tags can still be read even if they are beyond the line of sight of the scanner.

In its most basic form, an RFID system consists of at least 3 components:

- Transponder
- Reader/Scanner
- IT system

The word „transponder“ is made up from the words „trans(mitter)“ and „(res)ponder“. The transponder is the component which actually holds the data in the RFID system. It consists of an antenna, a microchip and a housing. It is designed to accept and store data or to allow data to be read out from it.

The writing/reading device is often combined in one unit. It can be a handheld device, a mobile phone or a device specially developed for RFID technology. These devices are used to write data to the transponder or read out data from it.
The IT system allows the data to be processed and, for example, incorporated into an inventory management system.
RFID is often compared to barcode technology, which has been in use for many years. In actual fact, RFID has some important advantages compared to barcode technology:



Non-contact data reading beyond the line of sight
Since RFID is based on radio technology, data can be transferred without the need for the scanner to contact the tag. RFID tags can still be read even if they are beyond the line of sight of the scanner, unlike barcodes.

Simultaneous reading and writing of data
A barcode system requires a database which supplies the relevant data. This means that a connection to the corresponding database is always required to identify a barcode. With an RFID transponder, identification data can be stored on the chip itself. This data is thus definitively assigned to the product.

Resistant to external influences
External influences such as dirt or moisture have no effect on RFID transponders. Barcodes may however be rendered illegible and thus unusable in similar circumstances.

Bulk scanning
RFID allows multiple transponders to be scanned in one operation.

Lapp products learn how to talk

Cables and connectors with RFID

All of the mentioned advantages of RFID have now been combined with high-quality products from Lapp Kabel. RFID chips and RFID sensors are integrated into the cable and connector during production. This has no effect on the high flexibility and physical durability of the components. This innovation allows the cables and connectors to be used for new applications:

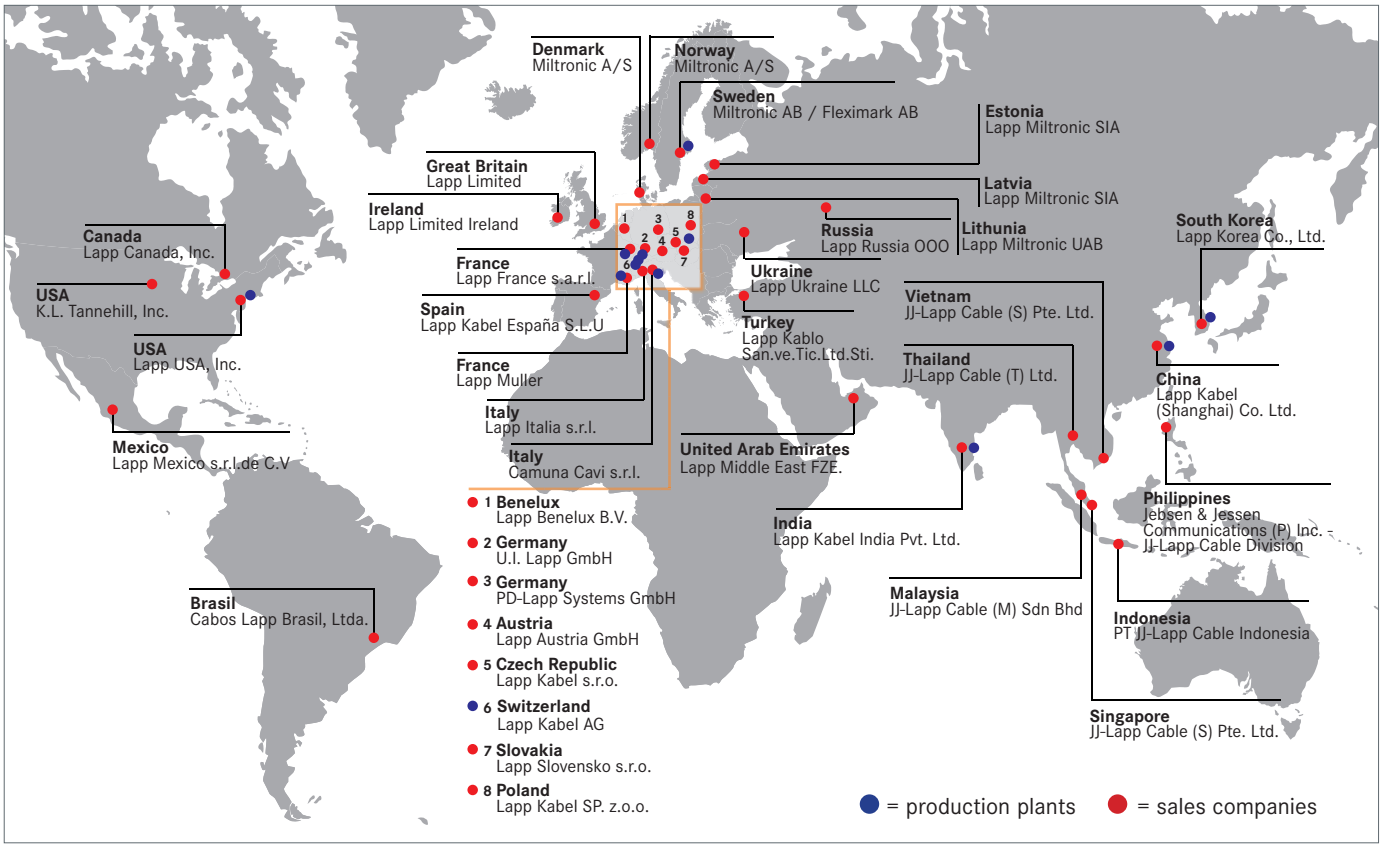
Identification
It is often the case that several companies are contracted to work on setting up the same event. Whereas one company will be responsible for ensuring quality, another company will be in charge of sth. else. Naturally, the companies sometimes use the same infrastructure. Cables and connectors are often disassembled and then reassembled elsewhere, making it hard to keep track of them. RFID offers a solution to this problem by definitively identifying all of the components. An RFID chip is used to identify the company the component belongs to, preventing any mix-ups.

Inventory management
Due to the large quantities of cables and connectors in use, a lot of effort is put into handling these products. By connecting the products to an inventory management system using modern RFID technology, inventory management processes can be optimised significantly. The potential for manual data entry errors is minimised considerably, which in turn reduces process costs.

Storage of measurement logs
The law requires regular checking of cables and connectors used for mobile power supply applications. Since RFID transponders can store data and are rewritable, they can be used to store measurement logs i.e. the latest measurement logs can be stored directly on the component that has been checked. This allows the data to be accessed at any time and place if required.

Temperature and moisture measurement
Along with RFID chips, Lapp Kabel has also developed RFID sensors which can be integrated into a cable. These sensors can be used to monitor certain aspects of a cable. These include, for example, temperature and moisture measurement.

The Lapp Group worldwide



The Lapp Group around the world

The Lapp Group is an internationally active family business with headquarters in Stuttgart. Around the world, 3.000 employees in 17 production sites, 39 distribution companies and more than 100 agencies are involved in production, marketing and providing advice and service to customers.

"Think global, act local" is seen less as a slogan, but more as part of the company philosophy. After all, a strong customer focus is something we achieve all the time. This by no means contradicts our clear commitment to Stuttgart and to Germany. In addition to Germany, there are six other production sites in Europe.

With the acquisition of other business skills, the Lapp Group intends to expand its range of products and to open up new markets.

Three other production sites in Asia – with the emphasis on the boom country of India – and two in the USA support the export industry in Germany and Europe and help our customers exploit these markets.

On the one hand this provides the greatest possible proximity to customers, while on the other enables local requirements and regulations to be taken into account. Further benefits ensue, e.g. the elimination of transportation costs without having to sacrifice the high quality reputation of "Made by Lapp".

Lapp's own Centers of Competence for the advanced training of employees and customers, e.g. in India, Thailand and Russia, round off our range of services.

Larger companies, such as those in Russia, India, China, Canada and Mexico, have their own warehouses. The other companies are quickly and reliably supplied from the relevant central stores.

www.lappgroup.com/worldwide

The Lapp Group worldwide

Algeria
CABELMAT EURL
14, Cité Mimouni, Lotissement 18,
Villa No. 14
16411 Bordj El Kifane
Tel.: +213 20/38 82 20
Fax: +213 20/38 82 20
info@cablemat.net

Argentina
NAKASE SRL
Calle 49 Nº 5764/66
B1653AOX
Villa Ballester
1870 Buenos Aires
Tel.: +54 11/4 76 84 24 21 22
Fax.:+54 11/4 76 84 24 21 11
ventas@nakase.com
www.nakase.com.ar

Armenia
AH-Building Technologies LLC
8 Tumanyan Street, Ap.3188
375002 Yerevan, ARMENIEN
Tel.: +374 10/51 91 88
Mobil: +374 91/40 04 87
Fax.:+374 10/52 01 88
info@ahbt.am

Australia
DKSH Australia Pty Ltd.
14-17 Dansu Court Hallam
3803 Victoria, Australia
Tel.: +61 3/95 54 66 66
Fax: +61 3/95 54 66 88
info@dksh.com.au

Austria
Lapp Austria GmbH
Bremenstraße 8
4030 Linz
Tel.: +43 732/78 12 72
Fax: +43 732/78 12 72 33
sales@lappaustria.at
www.lappkabel.at

Azerbaijan
Ticeret Merkezi – 4"
Gara Sheher 35
1025 Baku
Tel.: +994 12/4 90 65 94
Mobil: +994 5 03 55 01 02
Fax: +994 12/4 96 50 57
emil_it@office.az

Mikhail Ali-Zade
Aga-Neymatulla Str. 47A, apt. 6
1052 Baku
Tel.: +994 12/4 24 89 73
Fax: +994 12/4 49 92 70
ims.inc@azdata.net

Belarus
PNS-Professional Network Systems
Temirjaseva Str. 65a-19
220035 Minsk
Tel.: +375 17/2 50 44 21
Fax: +375 17/2 09 61 69
info@pns.by
www.pns.by

Benelux
Lapp Benelux B.V.
Van Dijklaan 16
NL - 5581 WG Waalre
Tel.: +31 40/2 54 54 65 (NL)
Tel.: +32 14/43 64 43 (BE, L)
Fax: +31 40/2 54 14 45 (NL)
Fax: +32 14/43 54 79 (BE, L)
info.lappbenelux@lappgroup.com
www.lappbenelux.com

Brazil
Cabos Lapp Brasil Ltda.
Av. Doutor Mauro Lindemberg
Monteiro, 684
Galpao 18-Osasco
CEP 06278-010 Sao Paulo
Tel.: +55 11/21 66 41 62
Fax: +55 11/21 66 41 65
vendas@lappbrasil.com.br
www.lappbrasil.com.br

Bulgaria
V & V Isomatic Ltd.
58, Dejan Belishki Str.
1404 Sofia
Tel.: +359 2/9 58 63 40
Fax: +359 2/9 58 22 70
v.v@techno-link.com
www.viv.isomatic.com

Canada
Lapp Canada Inc.
93 Skyway Avenue, Unit 111
M9W 6N6 Toronto Ontario
Tel.: +1 416/6 74 15 44
Fax: +1 416/6 74 99 50
sales@lappcanada.com
www.lappcanada.com

Chile
Desimat Chile
Av. Puerto Vespucio 9670
Parque Industrial Puerto Santiago
Pudahuel, Santiago
Tel.: +56 2/5 85 12 00
Fax: +56 2/7 47 01 53
ventaschile@desimat.cl
www.desimat.cl

China
Lapp Group (Shanghai) Co. Ltd.
19F1 Zhaofeng Universe Building
1800 Zhongshan Road West
Shanghai PR 200233
Tel.: +86 21/64 40 08 33
Fax: +86 21/64 40 08 34
info@lappkabel.com.cn
www.lappkabel.com.cn

Colombia
Transmisiones Ltda.
Carrera 69 B No. 21 A 48
Bodega UE 28-9
Parque Industrial Salitre
Bogotá, D.C.
Tel.: +57 1/4 12 68 98
Fax.:+57 1/31 53 31 52 21
info@transmisiones.de

Czech Republic
Lapp Group s.r.o.
Bartosova 315
76502 Otrokovice
Tel.: +420 573/50 10 11
Fax: +420 573/39 46 50
info@lappkabel.cz
www.lappkabel.cz

Denmark
Miltronic
Korskildeeng 6
2670 Greve
Tel.: +45 43/95 00 00
Fax: +45 43/95 00 09
info@miltronic.dk
www.miltronic.dk

Egypt
Arab Engineers Co.
113 El Thawra St., Heliopolis
Cairo
Tel.: +20 2/6 90 08 92
Fax.:+20 2/4 18 71 05
cairo@arab-engineering.com
www.arab-engineering.com

Estonia
Lapp Miltronic SIA Eesti filiaali
Kastani pst. 10
44307 Rakvere
Tel.: +372 65/1 89 70
Fax: +372 65/1 89 71
info@lappmiltronic.ee
www.miltronic.ee

Finland
EPIC®
Energel Oy
Atomitie 1
00370 Helsinki
Tel.: +358 9/5 40 71 30
Fax: +358 9/54 07 13 30
energel@energel.com
www.energel.com

SKS Automaatio Oy
Martinkyläntie 50
P.O. Box 122
01721 Vantaa
Tel.: +358 2/07 64 61
Fax: +358 2/07 64 68 20
automaatio@sks.fi
www.sks.fi

France
Lapp France s.a.r.l.
Technopôle Forbach-Sud
57600 Forbach
Tel.: +33 387/84 19 29
Fax: +33 387/84 17 94
lappfrance@lappgroup.com
www.lappfrance.fr

LAPP MULLER SAS
Z.A. du Grand Pont
83310 Grimaud
Tel.: +33 494/56 65 00
Fax: +33 494/4 34 87
info@mullercables.com
www.mullercables.com

Georgia
INSTA Ltd.
8, Zakariadze str.
0177 Tbilisi
Tel.: +995 322/0 20 20
Fax: +995 322/0 20 22
sales@insta.ge
www.insta.ge

Germany
U.I. Lapp GmbH
Schulze-Delitzsch-Straße 25
70565 Stuttgart
Tel.: +49 711/78 38 01
Fax: +49 711/78 38 26 40
info@lappkabel.de
www.lappgroup.com

Lapp Systems GmbH
Oskar-Lapp-Str. 5
70565 Stuttgart
Tel.: +49 711/78 38 04
Fax: +49 711/78 38 35 20
info@lappkabel.de
www.lappgroup.com

PD-Lapp Systems GmbH
Am Gewerbepark 7
01723 Wilsdruff
Tel.: +49 35204/2 05 85
Fax.:+49 35204/2 04 86
info@pdlappsystems.de
www.pdlappsystems.de

Great Britain
Lapp Limited
Unit 3 Perivale Park
Horsenden Lane South
UB6 7RL Greenford Middlesex
Tel.: +44 20/87 58 78 00
Fax: +44 20/87 58 78 80
sales@lapplimited.com
www.lapplimited.com

Greece
Dimoulas Special Cables S.A.
100-102 Lenorman Str.
10444 Athens
Tel.: +30 21/05 15 76 10
Fax: +30 21/05 15 76 11
info@dimoulas.gr
www.dimoulas.gr

Hong Kong
Worldtex & Co.
Unit 11, 11/F, Tins Enterprises Centre
777 Lai Chi Kok Rd.
Cheung Sha Wan
Kowloon, Hong Kong
Tel.: +85 22/7 81 18 60
Fax: +85 22/7 81 47 33
info@worldtex-co.com.hk

Hungary
Lapp Austria GmbH m.k.k.
Neumann János u.1
2040 Budaörs
Tel.: +36 23 50/12 50
Fax: +36 23 50/12 59
sales@lappgroup.hu
www.lappgroup.hu

India
Lapp India Pvt. Ltd.
Plot No.98 J&K
Jigani Industrial Area
II Phase, Bangalore South- 560 105
Tel.: +91 8110-41 48 00
Fax: +91 80-27 82 54 79
custcare@lappindia.com
www.lappindia.com

Indonesia
PT. JJ-LAPP Cable Indonesia
Graha INTI FAUZI, 7th Floor,
Jl. Buncit Raya
No. 22 Jakarta 12510, Indonesia
Tel.: +62 21/27 53 70 51
Fax: +62 21/27 53 70 52
sales_jjli@jjsea.com
www.jj-lappcable.com

Iran
Iran Technical Supply Co.
3rd Floor No. 141 Sohrevardi
Shomali Ave.
15589 Teheran
Tel.: +98 218/8 76 37 31
Fax: +98 218/8 76 95 36
info@itsco-ir.com
www. itsco-ir.com

Ireland
Lapp Limited
Unit 7, Park West Drive
Park West Business Park – Nangor
Road
Dublin 12
Tel.: +353 1/6 23 70 77
Fax: +353 1/6 23 70 78
sales@lapplimited.com
www.lapplimited.com

Island
Johan Rönning HF
Sundaborg 15
104 Reykjavik
Tel.: +354 5/20 08 00
Fax: +354 5/20 08 88
ronning@ronning.is
www.ronning.is

Israel
Arrow Control Cables Ltd.
7, Zavitan street
49950 Nehalim
Tel.: +972 3/9 07 48 87
Fax: +972 3/9 07 48 89
info@arrowcables.com
www.arrowcables.com

Italy
Lapp Italia s.r.l.
Via Lavoratori Autobianchi
1-Edificio 20
20033 Desio (Milano)
Tel.: +39 036/2 48 71
Fax: +39 036/2 48 73 30
lappitalia@lappitalia.it
www.lappitalia.it

Camuna Cavi s.r.l.
Via General Treboldi, 128
25048 Edolo (BS)
Tel.: +39 036/4 77 34 11
Fax.:+39 036/4 77 01 20
info@camunacavi.it
www.camunacavi.it

Japan
K.Mecs Co., Ltd.
Headquarters Yusen Iwamotocho
Bldg. 3F
2-3-3 Iwamotocho, Chiyodaku
101-0032 Tokyo
Tel.: +81 3/58 25 53 33
Fax: +81 3/58 25 85 50
info@kmecs.co.jp
www.kmecs.com

Kazakhstan
Orion Kazakhstan
Mametoloj 29/41
480003 Almaty
Tel.: +7 7272/79 89 28
Fax: +7 7272/71 08 71
office@orion-light.kz

The Lapp Group worldwide

SeaStarGroup
Off-22-23. Tengri Bldg 2, Azatyk Ave.
Opp KCS Bldg
465020 Atyrau
Tel.: +7 7122/32 04 27
Fax: +7 7122/32 12 54
sales@seastar.kz
www.seastar.kz

Korea
Lapp Korea Co., Ltd.
7F, SongWon Bldg.
92-2 Yuljun JangAn
SuWonCity, KyungGi
440-824 Korea
Tel.: +82 31/2 50 10 11
Fax: +82 31/2 50 10 19

Latvia
Lapp Miltronic SIA
Brivibas iela 155
1012 RIGA
Tel.: +371 7/50 19 00
Fax: +371 7/50 19 09
info@lappmiltronic.lv
www.miltronic.lv

Libya
Owya Company
Universal shipping agency
Ahmed Rafik Street
Third Floor
LY-Benghazi
Tel.: +218 61/9 08 07 79
Fax.:+218 61/9 08 07 79
owya_sp@yahoo.com

Lithuania
LAPP Miltronic UAB
P. Vileisio 18N
LT-10306 Vilnius
Tel.: +370 5/2 78 03 90
Fax: +370 5/2 78 03 97
info@lappmiltronic.lt
www.lappmiltronic.lt

Macedonia
Siskon Dooel
Taskenska 4A
1000 Skopje
Tel.: +389 2/3 06 24 23
Fax: +389 2/3 06 12 50
siskon@mt.net.mk
www.siskon.com.mk

Malaysia
JJ-LAPP Cable (M) Sdn Bhd
16, Jalan 51A/225,
46100 Petaling Jaya Selangor,
Malaysia
Tel.: +603 7/8 61 62 88
Fax: +603 7/8 61 62 99
sales_jjlm@jjsea.com
www.jj-lappcable.com

Malta
G & E Electronics Ltd.
Genics Bldgs.
Giov. Papaffy Str.
B'KARA BKR 13
Tel.: +356 21/48 68 16
Fax: +356 21/49 71 03
info@gemalta.com
www.gemalta.com

Mexico
Lapp Mexico s de rl de C.V.
Metalurgia # 2730
Industrial El Alamo C.P.
44490 Tlaquepaque, Jalisco
Tel.: +52 33/36 66 02 50
Fax: +52 33/36 66 00 75
ventas@lappmexico.com
www.lappmexico.com

Republic of Moldova
Licuri srl
Bd. Moskova, 20
2045 mun. Chisinau
Tel: +373 2/2 49 10 12
Fax: +373 2/2 40 47 77
Iurie.Gurschi@skynet.md

Mongolia
MCS International Co. Ltd.
MCS Anun centera
Khan-Uul districta
3rd khoroo
Ulaanbaatar
Tel.: +976 1/1 34 63 63
Fax: +976 1/1 34 60 30
batiko@mcs.mn
www.mcs.mn

Morocco
Lasamari
Energie & Produits S.A.R.L.
Rue Touki Ahmed No. 24
BD. HASSAN II
RESIDENCE OUROK
CASABLANCA
Tel.: +212 2226/3421 / 17
Fax: +212 2226/3421
Lep@menara.ma

New Zealand
Engineering Computer Services Ltd.
530 Te Rapa Road
P.O. Box 20204
Hamilton
Tel.: +64 7/8 49 22 11
Fax: +64 7/8 49 22 20
garry@lappgroup.co.nz
www.lappgroup.co.nz

Norway
Miltronic A/S
Eikveien 11
3036 Drammen
Tel.: +47 32/26 13 00
Fax: +47 32/2 61 39 90
info@miltronic.no
www.miltronic.no

Peru
Desimat Peru SA. C.
Av. Velasco Astete 2371
Surco-Lima 33
Tel.: +51 1/2 75 27 65
Fax: +51 1/2 75 27 76
ventas@desimat.com.pe
www.desimat.com.pe

Philippines
JJ-LAPP Cable (P) Inc
Serverina Diamond Industrial
Eastate, West Service Road,
KM 16 South Expressway
1700 Paranaque City
Tel.: +632 7/86 75 66
Fax: +632 7/86 75 44
sales_jjlp@jjsea.com
www.jj-lappcable.com

Poland
Lapp Group Sp. z.o.o.
ul. Wroclawska 33 D
55-095 Mirkow-Dlugoleka
Tel.: +48 71/3 30 63 00
Fax: +48 71/3 30 63 06
info@lapppolska.pl
www.lapppolska.pl

Portugal
Policabos S.A.
Soluçoes Técnicas de Condutores, S.A.
Rua Maria Lamas, Lote 19 – Bloco B – Piso 1
Parque Comercial Serra das Minas
2635-432 Rio de Mouro
Tel.: +351 21/9 17 86 40
Fax: +351 21/9 17 86 49
policabos@policabos.pt
www.policabos.pt

Rumania
Coelco Trade s.r.l.
Autostrada Bucuresti-Pitesti Km 13.5
Hala M
061076 Dragomiresti, Jud. Ilfov
Tel.: +40 21/4 11 96 21
Fax: +40 21/4 11 97 81
office@coelco.ro
www.coelco.ro

Russia
Lapp Russia OOO
Leninskaya St., 141
443041 Samara
Tel.: +7 8462/73 17 17
Fax: +7 8462/76 02 91
lapprussia@lapprussia.ru
www.lapprussia.ru

Serbia
Vesimpex d.o.o.
Petra Konjovica 12v,
Poslovni centar- Rakovica, ulaz C
11000 Beograd
Tel.: +381 11/3 51 06 83
Fax: +381 11/3 51 06 85
info@vesimpex.co.yu
www.vesimpex.co.yu

Singapore
JJ-LAPP Cable (S) Pte Ltd
No.9 Tuas South St 3
Singapore 638017
Tel.: +65 6/5 08 62 00
Fax: +65 6/8 63 12 71
sales_jjls@jjsea.com
www.jj-lappcable.com

Slovakia
Lapp Slovensko s.r.o.
Piaristicka 2
94901 Nitra
Tel.: +421 37/6 57 80 97
Fax: +421 37/6 57 80 97
info@lappkabel.sk

Slovenia
FINEA TRADE d.o.o.
Limbuška cesta 2
2000 Maribor
Tel.: +386 2/4 21 35 55
Fax: +386 2/4 21 35 71
elektro@finea-trade.si
www.finea-trade.si

South Africa
Lapp Cable SA
51 Brunton Circle
Foundersview South Modderfontein
1645 Gauteng
Tel: +27 11/2 01 32 00
Fax: +27 11/6 09 58 50
info@lappcable.co.za
www.lappcable.co.za

Spain
Lapp Group Espana S.L.U.
Avda. de les Garrigues, 34-36,
Poligono Mas Blau II, Nave 1
08820 El Prat de Llobregat
(Barcelona)
Tel: +34 93/4 79 62 71
Fax: +34 93/4 79 62 72
info@lappkabel.es
www.lappkabel.es

Sweden
Miltronic AB
Kungshagsvägen 7
P.O. Box 1022
61129 Nyköping
Tel.: +46 15/57 77 00
Fax: +46 15/57 77 01
info@miltronic.se
www.miltronic.se

Fleximark AB
Kungshagsvägen 9
P.O. Box 1022
61129 Nyköping
Tel.: +46 15/57 77 90
Fax: +46 15/57 77 91
info@fleximark.se
www.fleximark.se

Switzerland
EPIC®
Bachofen AG
Ackerstraße 42
8610 Uster
Tel.: +41 44/9 44 11 11
Fax: +41 44/9 44 12 33
info@bachofen.ch
www.bachofen.ch

Volland AG
Ifangstrasse 103
8153 Rümlang
Tel.: +41 18/17 97 97
Fax: +41 18/17 97 00
info@volland.ch
www.volland.ch

Taiwan
DKSH Taiwan Ltd
Hanover High Tech Square
10F, #22, Lane 407, Sec. 2
Ti Ding Blvd
Nei Hu District, Taipei
Tel.: +886 2/87 52 66 66
Fax: +886 2/87 51 86 88
vincent.wu@dksh.com

Thailand
JJ-LAPP Cable (T) Ltd
23/110-117 Sorachai Building
25-29th FL
Soi Sukhumvit 63 (Ekamai),
Sukhumvit Road, Klongton Nua,
Wattana, Bangkok 10110,
Thailand
Tel.: +66 2/7 87 82 88
Fax: +66 2/7 87 82 99
sales_jjlt@jjsea.com
www.jj-lappcable.com

Turkey
LAPP KABLO Sa.ve.Tic.Ltd.Sti.
Atatürk Bulvari Ayanoglu Is merk. No.1
34758 Atasehir-Kadiköy-Istanbul
Tel.: +90 216/4 56 56 99
Fax: +90 216/4 56 56 89
info@lapp.com.tr
www.lapp.com.tr

Ukraine
Lapp Ukraine LLC
201 – 203, Kharkivske shose
02121 Kiev
Tel.: +38 44/4 95 60 00
Fax: +38 44/4 90 76 30
info@lappukraine.com
www.lappukraine.com

United Arab Emirates
Lapp Middle East FZE
P.O.Box 18454
Dubai
Tel.: +971 4/8 86 07 44
Fax.:+971 4/8 86 07 42
lappme@lappgroup.com
www.lappgroup.com

Uruguay
Reprinter Ltda.
Calle Dublín 2030
11500 Montevideo
Tel.: +598 2/6 00 73 43
Fax.:+598 2/6 00 86 58
reprinter@multi.com.uy

USA
Lapp U.S.A., Inc.
29, Hanover Road
Florham Park, NJ 07932
Tel.: +1 973/6 60 97 00
Fax: +1 973/6 60 97 91
sales@lappusa.com
www.lappusa.com

Lapp Tannehill, Inc.
8675 Eagle Creek Parkway Suite 900
MN55378 Savage
Tel.: +1 952/8 81 67 00
Fax: +1 952/8 81 07 43
sales@lapptannehill.com
www.kltannehill.com

Uzbekistan
Elektro-Potential LLC
2b,G.Mavlyanov str.
100084 Tashkent
Tel.: +99 898/3 00 38 21
Fax.:+99 871/1 24 92 86
mz1958@yandex.ru

Venezuela
Somerinca C.A.
3era Transversal Dos Caminos
Quinta Corazon de Jesús
1070 Caracas
Tel.: +58 212/2 37 30 03
Fax: +58 212/2 39 93 41
klocmoeller@cantv.net

Vietnam
JJ-Lapp Cable (S) Pte Ltd Vietnam Rep. Office
Melinh Point Tower, Unit 906, 9th Floor,
2 Ngo Duc Ke St, Dist.1
Ho Chi Minh City
Tel.: +84 8/4 10 34 30
Fax: +84 8/4 10 34 29
sales_jjlv@jjsea.com
www.jj-lappcable.com

You will find our actual contact details at

www.lappgroup.com/worldwide

LAPP GROUP

LAPP KABEL STUTTGART
ÖLFLEX-SERVO-FD
KABEL STUTTGART

New

ÖLFLEX® CHAIN 879

PVC insulated, numbered, PVC sheath, approved

Info

- **NFPA 79 Ed. 2007 compliant power chain cable**

Benefits

- USA. Labeling of Industrial machinery. Because its MTW listing, these cables are highly accepted by NRTLs or AHJs
- Broad application range due to multiple approvals

Application range

- In power chains or moving machine parts
- Automated handling equipment
- Production plants
- Plant engineering

Product features

- Oil resistant according to UL OIL RES I & II
- Low adhesive surface
- Flame retardant in accordance with IEC 60332-1-2 and CSA FT1
- In damp and wet rooms
- Designed for 2 up to 8 million bending change cycles in the power chain

Approvals (Norm references)

CE CSA UL RoHS

- For travel distances up to 10 m.
- Usage in Power Chains: Please comply with the assembly guidelines Appendix T3
- Multi standard cables with mm² and AWG/ KCMIL (MCM) sizes normally have special conductor strands, which means that one of the specified conductor cross-sections works out greater than the specified nominal value.

Design

- Extra fine strands of plain copper wires (Class 6)
- Core insulation: PVC with nylon jacket (PA skin)
- Cores twisted in layers in short lay lengths
- Nonwoven wrapping
- PVC outer sheath, black (RAL 9005)

Technical data

Core identification code
Black with white numbers acc. to VDE 0293

Approvals
UL MTW, UL AWM Style 2587 & 21098
CSA AWM IA/B; IIA/B FT 1

Based on
VDE 0250/0281

Conductor stranding
Extra fine wire in according to VDE 0295 Class 6/ IEC 60228 Class 6

Minimum bending radius
For flexible applications: 7.5 x outside diameter
except #872003, 872012, 871803, 871812: 12 x o.d.
Static:
4 x cable diameter

Rated voltage
IEC: 300/500 V
UL/CSA: 600 V

Test voltage
2000V

Protective conductor
G = with protective conductor GN/YE

Range of temperature
Ocassional flexing: -5°C to +90°C
Fixed installation: -40°C up to +90°C

Part number	Number of cores and mm² per conductor	AWG	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
ÖLFLEX® CHAIN 879					
872003	3 G 0.5	20	7.3	15.0	58
872004	4 G 0.5	20	8.0	20.0	70
872005	5 G 0.5	20	8.6	25.5	81
872007	7 G 0.5	20	9.9	36.0	104
872012	12 G 0.5	20	11.4	61.0	151
872018	18 G 0.5	20	14.2	93.0	236
872025	25 G 0.5	20	17.0	127.5	311
871803	3 G 0.75	18	7.8	31.5	78
871804	4 G 0.75	18	8.6	40.5	95
871805	5 G 0.75	18	9.3	51.0	112
871807	7 G 0.75	18	10.8	72.0	148
871812	12 G 0.75	18	12.4	123.0	248
871815	15 G 0.75	18	13.8	154.5	299
871818	18 G 0.75	18	15.4	184.5	345
871825	25 G 0.75	18	18.5	256.5	461
871603	3 G 1.5	16	8.6	46.5	100
871604	4 G 1.5	16	9.5	61.5	124
871605	5 G 1.5	16	10.3	76.5	147
871607	7 G 1.5	16	12.0	108.0	195
871612	12 G 1.5	16	14.7	184.5	329
871618	18 G 1.5	16	17.2	277.5	463
871625	25 G 1.5	16	20.8	384.0	680
871404	4 G 2.5	14	10.6	102.0	175
871407	7 G 2.5	14	13.6	180.0	310
871204	4 G 4	12	12.4	163.5	251
871207	7 G 4	12	16.9	286.5	445
871004	4 G 6	10	15.3	246.0	388
870804	4 G 10	8	19.7	411.0	679
870604	4 G 16	6	23.7	657.0	970

Copper price basis: EUR 150 / 100 kg
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil 152 m; Drum 305 m
Please specify the desired make-up (e.g. 1 x 610 m drum or 8 x 76 m coils)

Comparable products

- ÖLFLEX® FD CLASSIC 810
- ÖLFLEX® FD 891 P

Accessories

- SILVYN® CHAIN Cable protection and guiding systems

New

ÖLFLEX® CHAIN 879 CY

Screened, PVC- insulated, numbered, PVC- inner and outer sheath, approved

Info

- **NFPA 79 Ed. 2007 compliant power chain cable**
- **EMC compliant**

Benefits

- USA. Labeling of Industrial machinery. Because its MTW listing, these cables are highly accepted by NRTLs or AHJs
- Broad application range due to multiple approvals

Application range

- In power chains or moving machine parts
- Automated handling equipment
- Production plants
- Machine tools
- Plant engineering

Product features

- Oil resistant according to UL OIL RES I & II
- Low adhesive surface
- Flame retardant in accordance with IEC 60332-1-2 and CSA FT1
- In damp and wet rooms
- Designed for 2 up to 8 million bending change cycles in the power chain

Approvals (Norm references)

- For travel distances up to 10 m.
- Usage in Power Chains: Please comply with the assembly guidelines Appendix T3
- Multi standard cables with mm² and AWG/ KCMIL (MCM) sizes normally have special conductor strands, which means that one of the specified conductor cross-sections works out greater than the specified nominal value.

Design

- Extra fine strands of plain copper wires (Class 6)
- Core insulation: PVC with nylon jacket (PA skin)
- Cores twisted in layers in short lay lengths
- Nonwoven wrapping
- Screen made of tinned copper wire braid
- PVC outer sheath, black (RAL 9005)

Technical data

Core identification code
Black with white numbers acc. to VDE 0293

Approvals
UL MTW, UL AWM Style 2587 & 21098
CSA AWM IA/B; IIA/B FT 1

Based on
VDE 0250/0281

Conductor stranding
Extra fine wire in acc. to VDE 0295 Cl.6 / IEC 60228 Cl.6

Minimum bending radius
Flexible use: 10 x outer diameter
Fixed installed : 6 x outer diameter

Rated voltage
IEC: 300/500 V
UL/CSA: 600 V

Test voltage
2000V

Protective conductor
G = with protective conductor GN/YE

Range of temperature
Ocassional flexing: -5°C to +90°C
Fixed installation: -40°C up to +90°C

Part number	Number of cores and mm² per conductor	AWG	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
ÖLFLEX® CHAIN 879 CY					
872003CY	3 G 0.5	20	8.0	37.5	85
872004CY	4 G 0.5	20	8.7	46.5	99
872005CY	5 G 0.5	20	9.3	54.0	113
872007CY	7 G 0.5	20	10.7	70.5	142
872012CY	12 G 0.5	20	12.3	112.5	207
872018CY	18 G 0.5	20	15.1	153.0	304
872025CY	25 G 0.5	20	18.1	225.0	416
871803CY	3 G 0.75	18	8.5	55.5	106
871804CY	4 0.75	18	9.3	69.0	127
871805CY	5 G 0.75	18	10.0	82.5	147
871807CY	7 G 0.75	18	11.6	118.5	200
871812CY	12 G 0.75	18	14.1	178.5	311
871818CY	18 G 0.75	18	16.3	252.0	419
871825CY	25 G 0.75	18	19.6	363.0	576
871603CY	3 G 1.5	16	9.3	75.0	132
871604CY	4 G 1.5	16	10.2	93.0	159
871605CY	5 G 1.5	16	11.0	112.5	186
871607CY	7 G 1.5	16	12.9	162.0	254
871612CY	12 G 1.5	16	15.6	249.0	400
871618CY	18 G 1.5	16	18.4	375.0	569
871625CY	25 G 1.5	16	23.1	508.5	814
871404CY	4 G 2.5	14	11.5	148.5	226
871407CY	7 G 2.5	14	15.4	243.0	379
871204CY	4 G 4	12	13.3	220.5	312
871207CY	7 G 4	12	17.8	363.0	527
871004CY	4 G 6	10	16.1	313.5	462
870804CY	4 G 10	8	21.9	525.0	805
870604CY	4 G 16	6	24.8	792.0	1,116

Copper price basis: EUR 150 / 100 kg
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg, otherwise drum
Please specify the desired make-up (e.g. 1 x 610 m drum or 8 x 76 m coils)

Comparable products

- ÖLFLEX® FD CLASSIC 810 CY
- ÖLFLEX® FD 891 CP

Accessories

- SKINTOP® MS-SC-M
- EPIC® Industrial connectors
- SILVYN® CHAIN Cable protection and guiding systems

ÖLFLEX® CLASSIC 110

Info

- **Change to an improved version:**
  - without talcum
  - additional meter marking

Benefits

- Space saving installation due to small cable diameters
- High electrical performance due to 4kV test voltage

Application range

- Plant engineering and construction
  Industrial machinery
  Air conditioning installations
  Power station
  Stage technique
- Fixed installation as well as occasional flexing at free, non-continuously recurring movement without tensile load
- Dry or damp interiors under medium mechanical load conditions

Product features

- Flame retardant according to IEC 60332-1-2
- Good chemical resistance
  see Appendix T1

Approvals (Norm references)

CE VDE RoHS

Design

- Fine strands of bare copper wires
- PVC insulation LAPP P8/1
- Cores twisted in layers
- PVC outer sheath, grey (RAL 7001)

Technical data

Core identification code
Black with white numbers acc. to VDE 0293

Specific insulation resistance
> 20 GOhm x cm

Conductor stranding
Fine wire in accordance to VDE 0295
Class 5 / IEC 60228 Class 5

Minimum bending radius
Occasional flexing: 15 x cable diameter
Fixed installation: 4 x cable diameter

Rated voltage
U_0/U: 300/500 V

Test voltage
4000 V

Protective conductor
G = with protective conductor GN/YE
X = without protective conductor

Range of temperature
Occasional flexing: -5°C up to +70°C
Fixed installation: -40°C up to +80°C

VDE tested
VDE Reg. No. 7030 for sizes up to and including 60 cores

Part number	Number of cores and mm² per conductor	Available as standard length only (•)	Standard lengths, meter							Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
			25	50	100	200	300	500	1000			
ÖLFLEX® CLASSIC 110; U0/U: 300/500 V												
1119752	2 X 0.5	•			100	200	300	500	1000	4.8	9.6	35
1119003	3 G 0.5	•			100	200	300	500	1000	5.1	14.4	42
1119753	3 X 0.5	•			100	200	300	500	1000	5.1	14.4	42
1119004	4 G 0.5	•			100	200	300	500	1000	5.7	19.2	54
1119754	4 X 0.5	•			100	200	300	500	1000	5.7	19.2	54
1119005	5 G 0.5	•			100	200	300	500	1000	6.2	24.0	63
1119755	5 X 0.5	•			100	200	300	500	1000	6.2	24.0	63
1119007	7 G 0.5	•		50	100	200	300	500	1000	6.7	33.6	81
1119757	7 X 0.5	•		50	100	200	300	500	1000	6.7	33.6	81
1119010	10 G 0.5	•		50	100	200	300	500	1000	8.6	48.0	116
1119012	12 G 0.5	•		50	100	200	300	500	1000	8.9	58.0	131
1119014	14 G 0.5			50	100			500	1000	9.5	67.0	153
1119018	18 G 0.5			50	100			500	1000	10.5	86.4	188
1119021	21 G 0.5			50	100			500	1000	11.7	101.0	221
1119025	25 G 0.5			50	100			500	1000	12.4	120.0	261
1119030	30 G 0.5			50	100			500	1000	13.3	144.0	304
1119035	35 G 0.5			50	100			500	1000	14.5	168.0	256
1119040	40 G 0.5			50	100			500	1000	15.4	192.0	400
1119052	52 G 0.5			50	100			500		17.3	250.0	517
1119061	61 G 0.5			50	100			500		18.5	293.0	603
1119065	65 G 0.5			50	100			500		19.6	312.0	644
1119080	80 G 0.5			50	100			500		21.1	384.0	780
1119100	100 G 0.5			50	100			500		23.6	480.0	975
1119802	2 X 0.75	•			100	200	300	500	1000	5.4	14.4	45
1119103	3 G 0.75	•			100	200	300	500	1000	5.7	21.6	55
1119803	3 X 0.75	•			100	200	300	500	1000	5.7	21.6	55
1119104	4 G 0.75	•			100	200	300	500	1000	6.2	28.8	66
1119804	4 X 0.75	•			100	200	300	500	1000	6.2	28.8	66
1119105	5 G 0.75	•		50	100	200	300	500	1000	6.7	36.0	79
1119805	5 X 0.75	•		50	100	200	300	500	1000	6.7	36.0	79
1119107	7 G 0.75	•		50	100	200	300	500	1000	7.3	50.0	101
1119807	7 X 0.75	•		50	100	200	300	500	1000	7.3	50.0	101
1119109	9 G 0.75	•		50	100	200	300	500	1000	9.4	65.0	137
1119110	10 G 0.75	•		50	100	200	300	500	1000	9.6	72.0	150
1119112	12 G 0.75	•		50	100	200	300	500	1000	9.9	86.0	171
1119812	12 X 0.75	•		50	100	200	300	500	1000	9.9	86.0	171
1119115	15 G 0.75			50	100			500	1000	10.9	108.0	209
1119117	15 X 0.75			50	100			500	1000	10.9	108.0	209
1119116	16 G 0.75			50	100			500	1000	11.1	115.2	220
1119118	18 G 0.75			50	100			500	1000	11.7	130.0	244
1119121	21 G 0.75			50	100			500	1000	13.0	151.0	286
1119125	25 G 0.75			50	100			500	1000	13.8	180.0	337
1119126	26 G 0.75			50	100			500	1000	14.2	187.2	350
1119134	34 G 0.75			50	100			500	1000	15.9	245.0	448
1119141	41 G 0.75			50	100			500	1000	17.4	296.0	538
1119150	50 G 0.75			50	100			500		19.2	360.0	648
1119151	51 G 0.75			50	100			500		19.2	367.0	646
1119161	61 G 0.75			50	100			500		20.5	439.0	779
1119165	65 G 0.75			50	100			500		21.8	468.0	832
1119180	80 G 0.75			50	100			500		23.6	576.0	1,019
1119200	100 G 0.75			50	100			500		26.4	718.0	1,271
1119852	2 X 1	•			100	200	300	500	1000	5.7	19.2	53
1119203	3 G 1	•			100	200	300	500	1000	6.0	28.8	65
1119853	3 X 1	•			100	200	300	500	1000	6.0	28.8	65

Wide range use

PVC sheath and numbered cores

Part number	Number of cores and mm² per conductor	Available as standard length only (•)	Standard lengths, meter							Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
			25	50	100	200	300	500	1000			
1119204	4 G 1	•		50	100	200	300	500	1000	6.5	38.4	79
1119854	4 X 1	•		50	100	200	300	500	1000	6.5	38.4	79
1119205	5 G 1	•		50	100	200	300	500	1000	7.1	48.0	94
1119855	5 X 1	•		50	100	200	300	500	1000	7.1	48.0	94
1119206	6 G 1	•		50	100	200	300	500	1000	8.0	58.0	113
1119207	7 G 1	•		50	100	200	300	500	1000	8.0	67.0	126
1119857	7 X 1	•		50	100	200	300	500	1000	8.0	67.0	126
1119208	8 G 1	•		50	100	200	300	500	1000	9.5	77.0	149
1119209	9 G 1	•		50	100	200	300	500	1000	10.0	86.0	164
1119210	10 G 1	•		50	100	200	300	500	1000	10.2	96.0	180
1119212	12 G 1	•		50	100	200	300	500	1000	10.5	115.0	205
1119862	12 X 1	•		50	100	200	300	500	1000	10.5	115.0	205
1119214	14 G 1			50	100			500	1000	11.2	134.0	238
1119216	16 G 1			50	100			500	1000	11.8	153.6	266
1119218	18 G 1			50	100			500	1000	12.7	173.0	320
1119868	18 X 1			50	100			500	1000	12.7	173.0	320
1119220	20 G 1			50	100			500	1000	13.4	192.0	330
1119870	20 X 1			50	100			500	1000	13.4	192.0	330
1119225	25 G 1			50	100			500	1000	14.7	240.0	408
1119226	26 G 1			50	100			500	1000	15.1	249.0	424
1119234	34 G 1			50	100			500	1000	17.1	326.0	551
1119236	36 G 1			50	100			500	1000	17.4	346.0	578
1119241	41 G 1			50	100			500	1000	18.8	394.0	661
1119242	42 G 1			50	100			500	1000	19.1	403.2	695
1119250	50 G 1			50	100			500		20.6	480.0	797
1119256	56 G 1			50	100			500		21.4	538.0	888
1119261	61 G 1			50	100			500		22.1	586.0	958
1119265	65 G 1			50	100			500		23.6	624.0	1,033
1119280	80 G 1			50	100			500		25.3	768.0	1,251
1119300	100 G 1			50	100			500		28.3	960.0	1,560
1119902	2 X 1.5	•			100	200	300	500	1000	6.3	29.0	68
1119303	3 G 1.5	•	25	50	100	200	300	500	1000	6.7	43.0	84
1119903	3 X 1.5	•		50	100	200	300	500	1000	6.7	43.0	84
1119304	4 G 1.5	•	25	50	100	200	300	500	1000	7.2	58.0	104
1119904	4 X 1.5	•		50	100	200	300	500	1000	7.2	58.0	104
1119305	5 G 1.5	•	25	50	100	200	300	500	1000	8.1	72.0	128
1119905	5 X 1.5	•		50	100	200	300	500	1000	8.1	72.0	128
1119306	6 G 1.5	•		50	100	200	300	500	1000	8.4	86.4	157
1119307	7 G 1.5	•	25	50	100	200	300	500	1000	8.9	101.0	166
1119907	7 X 1.5	•		50	100	200	300	500	1000	8.9	101.0	166
1119308	8 G 1.5			50	100			500	1000	10.6	115.0	210
1119313	8 X 1.5			50	100			500	1000	10.6	115.0	210
1119309	9 G 1.5			50	100			500	1000	11.4	130.0	221
1119310	10 G 1.5			50	100			500	1000	11.6	143.0	243
1119311	11 G 1.5			50	100			500	1000	11.6	158.0	258
1119312	12 G 1.5		25	50	100			500	1000	12.0	173.0	279
1119912	12 X 1.5			50	100			500	1000	12.0	173.0	279
1119314	14 G 1.5			50	100			500	1000	12.7	202.0	323
1119316	16 G 1.5			50	100			500	1000	13.4	230.4	361
1119318	18 G 1.5		25	50	100			500	1000	14.4	259.0	407
1119321	21 G 1.5			50	100			500	1000	15.7	302.0	469
1119325	25 G 1.5		25	50	100			500	1000	16.9	360.0	560
1119326	26 G 1.5			50	100			500	1000	17.3	374.4	582
1119332	32 G 1.5			50	100			500	1000	18.7	461.0	704
1119334	34 G 1.5			50	100			500	1000	19.4	490.0	746
1119341	41 G 1.5			50	100			500	1000	21.3	591.0	895
1119350	50 G 1.5			50	100			500		23.5	720.0	1,089
1119361	61 G 1.5			50	100			500		25.2	878.0	1,309
1119365	65 G 1.5			50	100			500		26.7	936.0	1,398
1119952	2 X 2.5	•	25	50	100	200	300	500	1000	7.5	48.0	101
1119403	3 G 2.5	•	25	50	100	200	300	500	1000	8.1	72.0	132
1119404	4 G 2.5	•	25	50	100	200	300	500	1000	8.9	96.0	163
1119405	5 G 2.5	•	25	50	100	200	300	500	1000	10.0	120.0	200
1119407	7 G 2.5		25	50	100			500	1000	11.1	168.0	267
1119412	12 G 2.5		25	50	100			500	1000	14.8	288.0	445
1119414	14 G 2.5			50	100			500	1000	15.8	336.0	515
1119418	18 G 2.5		25	50	100			500	1000	17.8	432.0	648
1119425	25 G 2.5		25	50	100			500	1000	20.8	600.0	890
1119434	34 G 2.5			50	100			500	1000	24.4	816.0	1,208
1119450	50 G 2.5			50	100			500		29.4	1,200.0	1,754
1119503	3 G 4		25	50	100			500	1000	9.9	115.0	201
1119504	4 G 4		25	50	100			500	1000	10.8	154.0	249
1119505	5 G 4		25	50	100			500	1000	12.1	192.0	294
1119507	7 G 4		25	50	100			500	1000	13.4	269.0	407
1119511	11 G 4			50	100			500	1000	17.6	422.0	634
1119512	12 G 4			50	100			500	1000	18.1	461.0	660
1119603	3 G 6		25	50	100			500	1000	11.7	172.8	289
1119604	4 G 6		25	50	100			500	1000	13.0	230.0	365
1119605	5 G 6		25	50	100			500	1000	14.5	288.0	447
1119607	7 G 6		25	50	100			500	1000	16.0	403.0	600
1119613	3 G 10		25	50	100			500	1000	14.6	288.0	466
1119614	4 G 10		25	50	100			500	1000	16.2	384.0	590
1119615	5 G 10		25	50	100			500	1000	18.1	480.0	722
1119617	7 G 10		25	50	100			500	1000	20.0	672.0	968
1119624	4 G 16			50	100			500		18.8	614.0	1,087
1119625	5 G 16			50	100			500		21.2	768.0	1,370
1119627	7 G 16			50	100			500		23.4	1,075.0	1,779
1119634	4 G 25			50	100			500		23.5	960.0	1,582
1119635	5 G 25			50	100			500		26.4	1,200.0	1,998
1119636	7 G 25			50	100			500		29.1	1,680.0	2,825
1119644	4 G 35			50	100			500		26.4	1,344.0	2,106
1119645	5 G 35			50	100			500		29.6	1,680.0	2,635

Copper price basis: EUR 150 / 100 kg
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

■ Comparable products

- ÖLFLEX® 191

■ Accessories

- SKINTOP® CLICK

New

ÖLFLEX® TORSION FRNC

Cold- and oil resistant cables for flexible application under torsionally load - 0,6/1 kV

Info

- Torsion resistant and very flexible
- Improved characteristics in case of fire
- Internationally approved

ÖLFLEX® TORSION D FRNC

Screened cold- and oil resistant cables for flexible application under torsionally load - 0,6/1 kV

Info

- Screened EMC compatible version

Benefits

- The special construction compensates reliably the permanent torsional movements inside of windmills between the nacelle and the tower
- The high flexibility and the good dismantle and stripping properties enable easy space-saving cable installation and fast processing
- Saltwater resistant for On- and Off-Shore application
- **FRNC** = **F**lame **R**etardant **N**on **C**orrosive
  - Reduction of flame propagation and density and toxicity of smoke gases in event of fire
  - Minimisation of damage to buildings and production facilities
  - Safety for maintenance staff resp. in areas with high personnel concentration
- The copper wrapping of the screened D version assures EMC and protects against electromagnetic interference

Application range

- For fixed, flexible as well as torsionally moved applications in the field of machinery building and wind power plant engineering
- Especially for the so-called loop-installation between the rotating nacelle and the stationary windmill tower to connect the generator and control units

Product features

- Torsion resistant up to +/-150°/mtr
- Good weather-, abrasion-, temperature- and UV resistance
- Good resistance against hydraulic and gear oils
- Halogen free and flame retardant
- Considering economic minimum quantities also customized designs are possible

Approvals (Norm references)

- UL AWM Style 21288 / CSA AWM II A/B
- Fire behaviour :
  - Halogen free (IEC 60754-1)
  - Corrosivity of gases (IEC 60754-2)
  - Smoke density (IEC 61034-2)
  - Flame retardant (IEC 60332-1-2)
  - No flame propagation (IEC 60332-3-24 resp. IEC 60332-3-25)
  - Complies with CSA FT4 flame test
- Oil resistant acc. to VDE 0473 part 811-2-1 and UL OIL RES I and UL OIL RES II

Design

- Super fine wired conductor of plain copper
- Core insulation of halogen free polyolefin polymer
- Cores torsion optimized twisted into layers
- Optional screening (D) of helically tinned copper wire wrapping
- Outer sheath of halogen free special compound, colour black (RAL 9005)

Technical data

Core identification code
Control and connection cables:
Colour coded according to VDE 0293-308, see Appendix T9
Starting at 6 cores: Black with white numbers
Paired signal cables: DIN 47100

Approvals
UL AWM Style 21288
CSA AWM II A/B

Specific insulation resistance
> 20 GOhm x cm

Conductor stranding
Extra fine wire in acc. to VDE 0295 Cl.6 / IEC 60228 Cl.6

Minimum bending radius
Flexible use: 10 x outer diameter
Fixed installed : 6 x outer diameter

Rated voltage
nach VDE: U_0/U 0,6/1,0 kV
Working voltage acc. UL/CSA: 1000V

Test voltage
ÖLFLEX® TORSION FRNC
C/C: 4000 V
ÖLFLEX® TORSION D FRNC
C/C: 4000 V
C/S: 2000 V

Protective conductor
G = with protective conductor GN/YE
X = without protective conductor

Range of temperature
Flexible use: -40°C up to +90°C (UL +80°C)
Static use: -40°C up to +90°C (UL +80°C)

Part number	Number of cores and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
ÖLFLEX® TORSION FRNC				
1150199	12 G 0.75	12.4	86.4	237
1150377	14 G 0.75	13.0	100.8	291
1150201	18 G 0.75	14.6	129.6	323
1150204	25 G 0.75	17.8	180.0	480
1150208	50 G 0.75	24.2	360.0	886
1150373	12 G 1	13.2	115.2	274
1150378	16 G 1	14.8	153.6	392
1150271	3 G 1.5	9.0	43.2	131
1150272	4 G 1.5	9.7	57.6	156
1150273	5 G 1.5	10.6	72.0	183
1150275	7 G 1.5	12.6	100.8	253
1150279	12 G 1.5	15.3	172.8	386
1150374	25 G 1.5	22.8	360.0	837
1150375	32 G 1.5	24.5	460.8	994
1150311	3 G 2.5	10.4	72.0	181
1150312	4 G 2.5	11.3	96.0	242
1150313	5 G 2.5	12.4	120.0	258
1150315	7 G 2.5	15.0	168.0	372

Part number	Number of cores and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
1150322	19 G 2.5	23.9	456.0	925
1150376	25 G 2.5	26.8	600.0	1,183
1150351	4 G 4	13.0	153.6	313
1150352	5 G 4	14.3	192.0	370
1150356	4 G 6	14.4	230.4	401
1150357	5 G 6	16.0	288.0	486
1150361	4 G 10	18.4	384.0	658
1150362	5 G 10	20.5	480.0	799
1150366	4 G 16	22.2	614.4	1,061
1150367	5 G 16	24.4	768.0	1,188
1150371	4 G 25	26.9	960.0	1,526
1150372	5 G 25	29.9	1,200.0	1,881
ÖLFLEX® TORSION D FRNC - screened				
1150111	4 x 2 x 0.5	11.9	71.0	205
1150115	12 x 2 x 0.5	18.3	188.0	518
1150121	4 x 2 x 0.75	12.7	90.0	232
1150125	12 x 2 x 0.75	19.8	258.0	603
1150221	18 G 0.75	15.2	180.0	402
1150228	50 G 0.75	24.9	470.0	1,079

Copper price basis: EUR 150 / 100 kg
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

ÖLFLEX® HEAT 180 UL/CSA

UL/CSA approved silicone cables (AWM)

Info
- For the use in the USA and in Canada
- UL AWM Style 4476 150°C/600V

New

ÖLFLEX® HEAT 180 C UL/CSA

Screened UL/CSA approved silicone cables (AWM)

Info
- Screened EMC compatible version

Benefits
- UL and CSA approval for export-oriented appliance and apparatus builders
- Thicker cable design meets the requirements of the FT-1 Vertical Flame Test and is thus also approved for installation in accordance with UL outside of apparatus and appliances
- Good flexibility ease the installation where space is limited
- The copper braid of the C- version protects against electromagnetic interference

Application range
- Areas with high ambient temperatures where insulating and sheath materials of conventional cables will embrittle after a short while
- Typical fields of application
  - Steel-, cement-, ceramic and iron works
  - Bakery equipment and industrial furnaces
  - Electric motor industry
  - Sauna/solarium construction
  - Thermal and heating elements
  - Lighting technology
  - Ventilator engineering
  - Air conditioning technology
  - Galvanization technology
  - Polymer processing
  - Generator and transformer building
  - Wind turbine engineering

Product features
- Metric flexible conductor design
- Halogen-free and flame retardant (IEC 60332-1-2)
- Reduced smoke density
- Good hydrolysis and UV resistance
- Resistant against a multitude of oils, alcohols, vegetable and animal fats and chemical media

Approvals (Norm references)
- UL AWM 4476 and CSA AWM II A/B
- Also available on request as special product with AWM rating 200°C/600 V
- Multi-conductor Type AWM cables (Appliance Wiring Material) shall be permitted for industrial machinery (US) when part of a listed assembly suitable for the intended use only. NFPA 79 Edition 2007 §12.2.7.3

Design
- Fine strands of tinned copper wires
- Silicone based core insulation
- Cores twisted together
- Optional copper screen braid (C-version)
- Silicone based outer sheath, colour black

Technical data

Core identification code
Colour coded according to VDE 0293-308, see Appendix T9
Starting at 6 cores: Black with white numbers

Approvals
UL AWM Style 4476 (Construction B)
CSA AWM II A/B

Specific insulation resistance
>200 GOhm x cm

Conductor stranding
Fine wire in accordance to VDE 0295
Class 5 / IEC 60228 Class 5

Minimum bending radius
ÖLFLEX® HEAT 180 UL/CSA
Occasional flexing: 15 x cable diameter
Fixed installation: 4 x cable diameter
ÖLFLEX® HEAT 180 C UL/CSA
Occasional flexing: 20 x cable diameter
Fixed installation: 6 x cable diameter

Rated voltage
VDE U0/U: 300/500 V
Operating voltage UL/CSA: 600 V

Test voltage
2000 V

Protective conductor
G = with protective conductor GN/YE
X = without protective conductor

Range of temperature
VDE: -50°C up to +180°C
According to UL/CSA: up to +150°C
(adequate ventilation provided)

Part number	Number of cores and mm² per conductor	AWG	Outer diameter mm	Copper index kg/km	Weight kg/km approx.
ÖLFLEX® HEAT 180 UL/CSA					
0046600	2 X 0.5	20	7.6	9.8	72.0
0046601	3 G 0.5	20	8.0	14.7	83.0
00466023	4 G 0.5	20	8.7	19.6	99.0
00466033	5 G 0.5	20	9.4	24.5	119.0
0046604	7 G 0.5	20	10.2	34.3	142.0
0046612	2 X 1	18	8.4	19.2	93.0
0046613	3 G 1	18	8.9	28.8	110.0
00466143	4 G 1	18	9.6	38.4	133.0
00466153	5 G 1	18	10.6	48.0	160.0
0046616	7 G 1	18	11.4	67.2	195.0
0046617	12 G 1	18	15.2	115.2	345.0
0046618	2 X 1.5	16	9.0	28.8	113.0
0046619	3 G 1.5	16	9.5	43.2	135.0
00466203	4 G 1.5	16	10.4	57.6	165.0
00466213	5 G 1.5	16	11.4	72.0	200.0
0046622	7 G 1.5	16	12.3	100.8	246.0
0046623	12 G 1.5	16	16.5	172.8	437.0
0046625	18 G 1.5	16	19.2	259.2	613.0
0046626	25 G 1.5	16	23.4	360.0	904.0
0046628	2 X 2.5	14	9.8	48.0	146.0
0046629	3 G 2.5	14	10.5	72.0	178.0
00466303	4 G 2.5	14	11.4	96.0	220.0
00466313	5 G 2.5	14	12.5	120.0	269.0
0046633	3 G 4	12	11.8	115.2	246.0
00466343	4 G 4	12	12.9	153.6	307.0
00466353	5 G 4	12	14.5	192.0	389.0
0046636	3 G 6	10	15.2	172.8	396.0
00466373	4 G 6	10	16.8	230.4	495.0
00466383	5 G 6	10	18.4	288.0	608.0
ÖLFLEX® HEAT 180 C UL/CSA - screened					
0046701	3 G 0.5	20	8.6	43.4	100.0
0046702	4 G 0.5	20	9.3	55.4	122.0
0046703	5 G 0.5	20	10.0	60.2	137.0
0046708	2 X 1	18	9.0	48.2	104.0
0046709	3 G 1	18	9.5	65.0	131.0
0046710	4 G 1	18	10.2	74.6	152.0
0046711	5 G 1	18	11.0	91.5	181.0
0046712	7 G 1	18	11.9	117.9	228.0
0046716	2 X 1.5	16	9.6	65.0	126.0
0046717	3 G 1.5	16	10.1	79.4	152.0
0046718	4 G 1.5	16	10.9	101.1	186.0
0046719	5 G 1.5	16	11.8	122.7	222.0
0046720	7 G 1.5	16	12.8	158.7	281.0
0046721	12 G 1.5	16	16.9	245.2	431.0
0046723	18 G 1.5	16	19.6	346.1	600.0
0046724	25 G 1.5	16	23.9	495.7	833.0
0046728	3 G 2.5	14	11.0	115.5	197.0
0046729	4 G 2.5	14	11.9	146.7	244.0
0046730	5 G 2.5	14	12.9	177.9	291.0
0046734	3 G 4	12	12.3	165.9	261.0
0046735	4 G 4	12	13.4	211.5	325.0
0046736	5 G 4	12	14.9	257.2	389.0
0046740	4 G 6	10	17.2	302.8	482.0
0046741	5 G 6	10	18.7	367.6	580.0
0046742	4 G 10	8	22.8	508.4	802.0

Copper price basis: EUR 150 / 100 kg
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

New

ÖLFLEX® SOLAR XLR ST

The latest solar cable generation according to PV1-F design

Info

- **According to DKE requirements specification PV1-F**
- **TÜV Type Approved (2PfG 1169/08.07)**

Benefits

- High thermal capacity for long lasting operation of the PV system at all seasons
- Reduced spreading of fire source and formation of toxic combustion gases in event of fire
- Variously coloured core insulations simplify on demand the differentiation of the polarity during installation
- Robust against mechanical impact
- Exact quantity control during installation by meter marking on the cable sheath
- Good heat pressure resistance
- Halogen-free and flame-retardant.
- Resistant against ammonia- and biogases, oxalic acid, sodium hydroxide and other chemical media

Application range

- For cabling of solar modules among themselves and as extension cable between the individual module strings or DC/AC inverter
- Gable and flat roof photovoltaic systems
- Open land solarfield plants

Product features

- Excellent weather-, temperature- and UV resistance
- Good notch and abrasion resistance

Approvals (Norm references)

- TÜV Type Approved (2PfG 1169/08.07)
- Halogen-free according to EN 50267-2-2
- Ozone resistant according EN 50396
- Weather-/UV resistant according HD 605/A1
- Acid-/brine resistant according EN 60811-2-1

Design

- Conductor: Fine wired tinned copper strands
- Core insulation: Electron beam cross-linked copolymer
- Outer sheath: Electron beam cross-linked Copolymer
  Colour: Black (RAL 9005)
- **XLR** = **X**-**L**inked **R**adiated

Technical data

Approvals
PV1-F (TÜV Type approved according 2 PfG 1169/08.2007)

Conductor stranding
Fine wire in accordance to VDE 0295 Class 5 / IEC 60228 Class 5

Minimum bending radius
Fixed installation:
4 x cable diameter

Rated voltage
AC U0/U : 600/1000 V
DC U0/U : 900/1500 V
Max. permissible operating voltage:
DC 1800 V

Test voltage
AC 6500 V

Range of temperature
40° C up to +120° C max. conductor temperature
Ambient temperature according IEC 60216-2 :
At +90° C the expected service life amounts to 25 years

Part number	Conductor cross section in mm²	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
ÖLFLEX® SOLAR XLR ST				
Core insulation: black / Outer sheath: black				
0025850	1.5	4.8	14.4	40.0
0025855	2.5	5.6	24.0	53.0
0025860	4.0	6.0	38.4	74.0
0025865	6.0	7.0	57.6	92.0
0025870	10.0	8.4	96.0	152.0
Core insulation: red / Outer sheath: black				
0025851	1.5	4.8	14.4	40.0
0025856	2.5	5.6	24.0	53.0
0025861	4.0	6.0	38.4	74.0
0025866	6.0	7.0	57.6	92.0
0025871	10.0	8.4	96.0	152.0
Core insulation: blue / Outer sheath: black				
0025852	1.5	4.8	14.4	40.0
0025857	2.5	5.6	24.0	53.0
0025862	4.0	6.0	38.4	74.0
0025867	6.0	7.0	57.6	92.0
0025872	10.0	8.4	96.0	152.0

Copper price basis: EUR 150 / 100 kg
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil 100 m; Drum (500; 1000) m

Comparable products

- EPIC® SOLAR M pre-assembled see page 79
- EPIC® SOLAR F pre-assembled see page 79
- EPIC® SOLAR FMM Y-Splitter see page 80
- EPIC® SOLAR MFF Y-Splitter see page 80

Accessories

- EPIC® SOLAR Module Box
- EPIC® SOLAR - Industrially injection overmoulded and field mountable solar connectors for safe connection of PV modules
- SKINTOP® ST / SKINTOP® CLICK - Approved cable glands for use for PV junction boxes, electric meters and DC/AC converters

New

ÖLFLEX® SOLAR XLS

Cross-linked standard solar cables

Info

- **Temperature range -40°C up to +100°C**

Benefits

- Robust against mechanical impact
- Reduced spreading of fire source and formation of toxic combustion gases in event of fire
- Exact quantity control during installation by meter marking on the cable sheath

Application range

- For cabling of solar modules among themselves and as extension cable between the individual module strings or DC/AC inverter
- Gable and flat roof photovoltaic systems
- Open land solarfield plants

Product features

- Weathering-, abrasion and UV resistant
- Good heat pressure resistance
- Halogen-free and flame-retardant.
- Resistant against ammonia- and biogases, oxalic acid, sodium hydroxide and other chemical media
- On request and considering economic minimum lenghts also available with red and blue outer sheath

Approvals (Norm references)

CE RoHS

- Flame retardant according to IEC 60332-1-2
- Halogen-free according to EN 50267-2-2
- Ozone resistant according EN 50396
- Weather-/UV resistant according HD 605/A1
- Acid-/brine resistant according EN 60811-2-1

Design

- Conductor: Fine wired tinned copper strands
- Core insulation: Electron beam cross-linked copolymer
- Core insulation colour: Black, red or blue
- Outer sheath: Cross-linked copolymer
- Outer sheath colour: Black (RAL 9005)

Technical data

Conductor stranding
Fine wire in accordance to VDE 0295
Class 5 / IEC 60228 Class 5

Minimum bending radius
Fixed installation:
4 x cable diameter

Rated voltage
AC U0/U : 600/1000 V
DC U0/U : 900/1500 V
Max. permissible operating voltage:
DC 1800 V

Test voltage
4000 V

Range of temperature
Fixed installation:
-40° C up to +100 °C

Part number	Conductor cross section in mm²	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
ÖLFLEX® SOLAR XLS - Core insulation: black / Outer sheath: black				
0025800	1.5	5.4	14.4	29.0
0025805	2.5	5.4	24.0	45.0
0025810	4.0	6.0	38.4	72.0
0025815	6.0	7.1	57.6	102.0
0025820	10.0	8.9	96.0	159.0
0025825	16.0	9.8	153.6	247.0
ÖLFLEX® SOLAR XLS - Core insulation: red / Outer sheath: black				
0025801	1.5	5.4	14.4	29.0
0025806	2.5	5.4	24.0	45.0
0025811	4.0	6.0	38.4	72.0
0025816	6.0	7.1	57.6	102.0
0025821	10.0	8.9	96.0	159.0
0025826	16.0	9.8	153.6	247.0
ÖLFLEX® SOLAR XLS - Core insulation: blue / Outer sheath: black				
0025802	1.5	5.4	14.4	29.0
0025807	2.5	5.4	24.0	45.0
0025812	4.0	6.0	38.4	72.0
0025817	6.0	7.1	57.6	102.0
0025822	10.0	8.9	96.0	159.0
0025827	16.0	9.8	153.6	247.0

Copper price basis: EUR 150 / 100 kg
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil 100 m; Drum (500; 1000) m

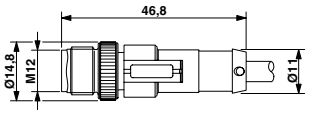
Comparable products

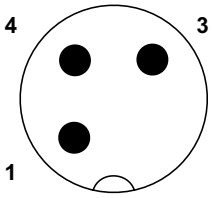
- ÖLFLEX® SOLAR XL multi

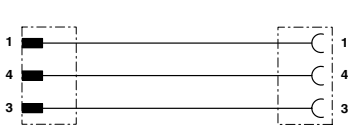
Accessories

- EPIC® SOLAR - Industrially injection overmoulded and field mountable solar connectors for safe connection of PV modules
- SKINTOP® ST / SKINTOP® CLICK - Approved cable glands for use for PV junction boxes, electric meters and DC/AC converters

S/A cable, M12 connector on free conductor end







S/A cable, M12 connector on free conductor end

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. connector
- Plug design with M12 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- PUR halogen-free cable
- Permanently flexible control cable
- Design: 3 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Sheath color black

Technical data

IP

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

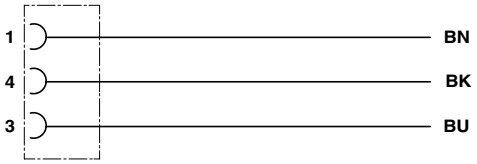
Material, knurls
Zinc die-cast, (nickel-plated)

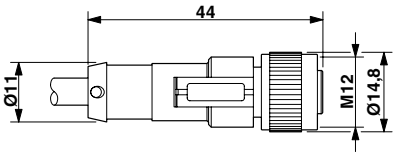
Material of grip body
TPU, hardly inflammable, self-extinguishing

Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	PU
Straight connector					
22260221	AB-C3-M12MS-2,0PUR	2	250	4	1
22260222	AB-C3-M12MS-5,0PUR	5	250	4	1
22260249	AB-C3-M12MS-10,0PUR	10	250	4	1
Angled connector					
22260223	AB-C3-M12MR-2,0PUR	2	250	4	1
22260224	AB-C3-M12MR-5,0PUR	5	250	4	1
22260256	AB-C3-M12MR-10,0PUR	10	250	4	1

Special cable length and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

S/A cable, M12 socket on free conductor end





S/A cable, M12 socket on free conductor end

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. connector
- Socket design with M12 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- PUR halogen-free cable
- Permanently flexible control cable
- Design: 3 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Sheath color black

Technical data

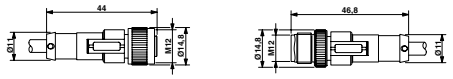
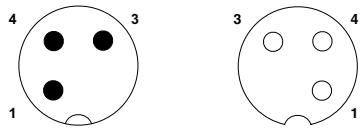
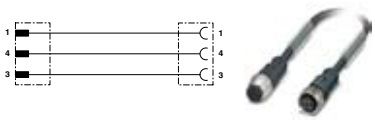
IP

Degree of protection
IP65/IP68/IP69K
Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C
Contact material
CuSn
Contact surface material
Ni/Au
Coding
A - Standard
Material, knurls
Zinc die-cast, (nickel-plated)
Material of grip body
TPU, hardly inflammable, self-extinguishing

Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight socket						
22260257	AB-C3-2,0PUR-M12FS	2	250	4	No	1
22260250	AB-C3-5,0PUR-M12FS	5	250	4	No	1
22260251	AB-C3-10,0PUR-M12FS	10	250	4	No	1
Angled socket						
22260258	AB-C3-2,0PUR-M12FA	2	250	4	No	1
22260259	AB-C3-5,0PUR-M12FA	5	250	4	No	1
22260260	AB-C3-10,0PUR-M12FA	10	250	4	No	1
Straight socket						
22260252	AB-C3-2,0PUR-M12FS-2L	2	24	4	2 LEDs	1
22260265	AB-C3-5,0PUR-M12FS-2L	5	24	4	2 LEDs	1
22260266	AB-C3-10,0PUR-M12FS-2L	10	24	4	2 LEDs	1
Angled socket						
22260253	AB-C3-2,0PUR-M12FA-2L	2	24	4	2 LEDs	1
22260254	AB-C3-5,0PUR-M12FA-2L	5	24	4	2 LEDs	1
22260255	AB-C3-10,0PUR-M12FA-2L	10	24	4	2 LEDs	1

Special cable length and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

S/A cable, M12 connector on M12 socket

S/A cable, M12 connector on M12 socket

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. connector
- Plug design with M12 thread on socket with M12 thread
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- PUR halogen-free cable
- Permanently flexible control cable
- Design: 3 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Sheath color black

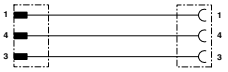
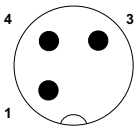
Technical data

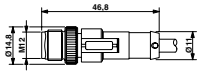
Degree of protection
IP65/IP68/IP69K
Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C
Contact material
CuSn
Contact surface material
Ni/Au
Coding
A - Standard
Material, knurls
Zinc die-cast, (nickel-plated)
Material of grip body
TPU, hardly inflammable, self-extinguishing

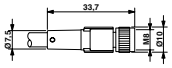
Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight connector on straight socket						
22260233	AB-C3-M12MS-0,3PUR-M12FS	0.3	250	4	No	1
22260234	AB-C3-M12MS-0,6PUR-M12FS	0.6	250	4	No	1
22260235	AB-C3-M12MS-1,0PUR-M12FS	1	250	4	No	1
22260236	AB-C3-M12MS-2,0PUR-M12FS	2	250	4	No	1
Straight connector on angled socket						
22260237	AB-C3-M12MS-0,3PUR-M12FA	0.3	250	4	No	1
22260238	AB-C3-M12MS-0,6PUR-M12FA	0.6	250	4	No	1
22260239	AB-C3-M12MS-1,0PUR-M12FA	1	250	4	No	1
22260240	AB-C3-M12MS-2,0PUR-M12FA	2	250	4	No	1
Straight connector on angled socket with LEDs						
22260261	AB-C3-M12MS-0,3PUR-M12FA-2L	0.3	24	4	2 LEDs	1
22260262	AB-C3-M12MS-0,6PUR-M12FA-2L	0.6	24	4	2 LEDs	1
22260263	AB-C3-M12MS-1,0PUR-M12FA-2L	1	24	4	2 LEDs	1
22260264	AB-C3-M12MS-2,0PUR-M12FA-2L	2	24	4	2 LEDs	1

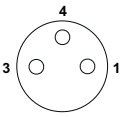
For detailed information please see the data sheet (www.lappautomation.com)

S/A cable, M12 connector on M8 socket







S/A cable, M12 connector on M8 socket

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. connector
- Plug design with M12 thread on socket with M8 thread
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- PUR halogen-free cable
- Permanently flexible control cable
- Design: 3 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Sheath color black

Technical data

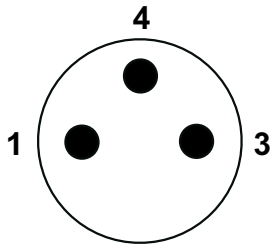
IP

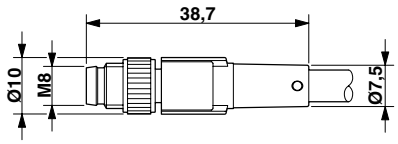
Degree of protection
IP65/IP68/IP69K
Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C
Contact material
CuSn
Contact surface material
Ni/Au
Coding
A - Standard
Material, knurls
Zinc die-cast, (nickel-plated)
Material of grip body
TPU, hardly inflammable, self-extinguishing

Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight connector on straight socket						
22260225	AB-C3-M12MS-0,3PUR-M8FS	0.3	60	3	No	1
22260226	AB-C3-M12MS-0,6PUR-M8FS	0.6	60	3	No	1
22260227	AB-C3-M12MS-1,0PUR-M8FS	1	60	3	No	1
22260228	AB-C3-M12MS-2,0PUR-M8FS	2	60	3	No	1
Straight connector on angled socket						
22260229	AB-C3-M12MS-0,3PUR-M8FA	0.3	60	3	No	1
22260230	AB-C3-M12MS-0,6PUR-M8FA	0.6	60	3	No	1
22260231	AB-C3-M12MS-1,0PUR-M8FA	1	60	3	No	1
22260232	AB-C3-M12MS-2,0PUR-M8FA	2	60	3	No	1
Straight connector on angled socket with LEDs						
22260267	AB-C3-M12MS-0,3PUR-M8FA-2L	0.3	24	3	2 LEDs	1
22260268	AB-C3-M12MS-0,6PUR-M8FA-2L	0.6	24	3	2 LEDs	1
22260269	AB-C3-M12MS-1,0PUR-M8FA-2L	1	24	3	2 LEDs	1
22260270	AB-C3-M12MS-2,0PUR-M8FA-2L	2	24	3	2 LEDs	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A cable, M8 connector on free conductor end





S/A cable, M8 connector on free conductor end

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. connector
- Plug design with M8 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- PUR halogen-free cable
- Permanently flexible control cable
- Design: 3 x 0.25 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Sheath color black

Technical data

IP

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

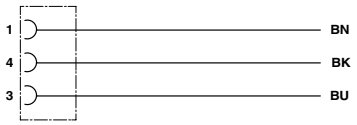
Material, knurls
Zinc die-cast, (nickel-plated)

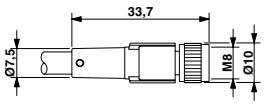
Material of grip body
TPU, hardly inflammable, self-extinguishing

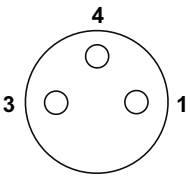
Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	PU
Straight connector					
22260204	AB-C3-M8MS-2,0PUR	2	60	3	1
22260205	AB-C3-M8MS-5,0PUR	5	60	3	1
22260218	AB-C3-M8MS-10,0PUR	10	60	3	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A cable, M8 socket on free conductor end







S/A cable, M8 socket on free conductor end

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. connector
- Socket design with M8 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- PUR halogen-free cable
- Permanently flexible control cable
- Design: 3 x 0.25 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Sheath color black

Technical data

IP

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

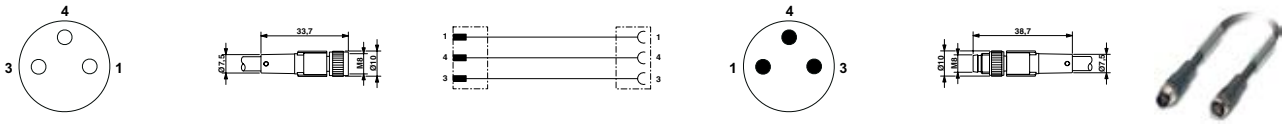
Material, knurls
Zinc die-cast, (nickel-plated)

Material of grip body
TPU, hardly inflammable, self-extinguishing

Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight socket						
22260202	AB-C3-2,0PUR-M8FS	2	60	3	No	1
22260200	AB-C3-5,0PUR-M8FS	5	60	3	No	1
22260219	AB-C3-10,0PUR-M8FS	10	60	3	No	1
Angled socket						
22260203	AB-C3-2,0PUR-M8FA	2	60	3	No	1
22260201	AB-C3-5,0PUR-M8FA	5	60	3	No	1
22260220	AB-C3-10,0PUR-M8FA	10	60	3	No	1
Angled socket with LEDs						
22260275	AB-C3-2,0PUR-M8FA-2L	2	24	3	2 LEDs	1
22260276	AB-C3-5,0PUR-M8FA-2L	5	24	3	2 LEDs	1
22260277	AB-C3-10,0PUR-M8FA-2L	10	24	3	2 LEDs	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A cable, M8 connector on M8 socket



S/A cable, M8 connector on M8 socket

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. connector
- Plug design with M8 thread on socket with M8 thread
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- PUR halogen-free cable
- Permanently flexible control cable
- Design: 3 x 0.25 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Sheath color black

Technical data

IP

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

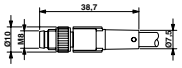
Material, knurls
Zinc die-cast, (nickel-plated)

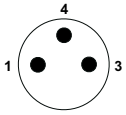
Material of grip body
TPU, hardly inflammable, self-extinguishing

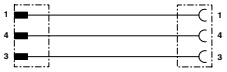
Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight connector on straight socket						
22260206	AB-C3-M8MS-0,3PUR-M8FS	0.3	60	3	No	1
22260207	AB-C3-M8MS-0,6PUR-M8FS	0.6	60	3	No	1
22260208	AB-C3-M8MS-1,0PUR-M8FS	1	60	3	No	1
22260209	AB-C3-M8MS-2,0PUR-M8FS	2	60	3	No	1
Straight connector on angled socket						
22260210	AB-C3-M8MS-0,3PUR-M8FA	0.3	60	3	No	1
22260211	AB-C3-M8MS-0,6PUR-M8FA	0.6	60	3	No	1
22260212	AB-C3-M8MS-1,0PUR-M8FA	1	60	3	No	1
22260213	AB-C3-M8MS-2,0PUR-M8FA	2	60	3	No	1
Straight connector on angled socket with LEDs						
22260214	AB-C3-M8MS-0,3PUR-M8FA-2L	0.3	24	3	2 LEDs	1
22260215	AB-C3-M8MS-0,6PUR-M8FA-2L	0.6	24	3	2 LEDs	1
22260216	AB-C3-M8MS-1,0PUR-M8FA-2L	1	24	3	2 LEDs	1
22260217	AB-C3-M8MS-2,0PUR-M8FA-2L	2	24	3	2 LEDs	1

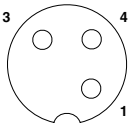
For detailed information please see the data sheet (www.lappautomation.com)

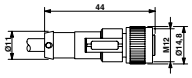
S/A cable, M8 connector on M12 socket











S/A cable, M8 connector on M12 socket

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. connector
- Plug design with M8 thread on socket with M12 thread
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- PUR halogen-free cable
- Permanently flexible control cable
- Design: 3 x 0.25 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Sheath color black

Technical data

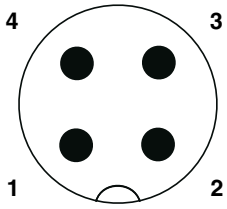
IP

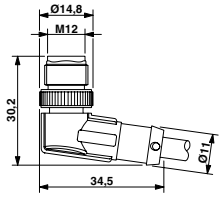
Degree of protection
IP65/IP68/IP69K
Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C
Contact material
CuSn
Contact surface material
Ni/Au
Coding
A - Standard
Material, knurls
Zinc die-cast, (nickel-plated)
Material of grip body
TPU, hardly inflammable, self-extinguishing

Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight connector on straight socket						
22260241	AB-C3-M8MS-0,3PUR-M12FS	0.3	60	3	No	1
22260242	AB-C3-M8MS-0,6PUR-M12FS	0.6	60	3	No	1
22260243	AB-C3-M8MS-1,0PUR-M12FS	1	60	3	No	1
22260244	AB-C3-M8MS-2,0PUR-M12FS	2	60	3	No	1
Straight connector on angled socket						
22260245	AB-C3-M8MS-0,3PUR-M12FA	0.3	60	3	No	1
22260246	AB-C3-M8MS-0,6PUR-M12FA	0.6	60	3	No	1
22260247	AB-C3-M8MS-1,0PUR-M12FA	1	60	3	No	1
22260248	AB-C3-M8MS-2,0PUR-M12FA	2	60	3	No	1
Straight connector on angled socket with LEDs						
22260271	AB-C3-M8MS-0,3PUR-M12FA-2L	0.3	24	3	2 LEDs	1
22260272	AB-C3-M8MS-0,6PUR-M12FA-2L	0.6	24	3	2 LEDs	1
22260273	AB-C3-M8MS-1,0PUR-M12FA-2L	1	24	3	2 LEDs	1
22260274	AB-C3-M8MS-2,0PUR-M12FA-2L	2	24	3	2 LEDs	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A cable, M12 connector on free conductor end





S/A cable, M12 connector on free conductor end

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 4-pos. connector
- Plug design with M12 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- PUR halogen-free cable
- Permanently flexible control cable
- Design: 4 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, white, blue, black
- Sheath color black

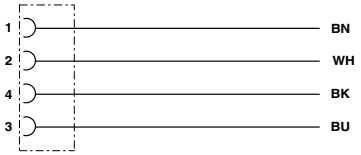
Technical data

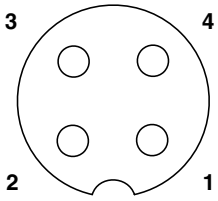
Degree of protection
IP65/IP68/IP69K
Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C
Contact material
CuSn
Contact surface material
Ni/Au
Coding
A - Standard
Material, knurls
Zinc die-cast, (nickel-plated)
Material of grip body
TPU, hardly inflammable, self-extinguishing

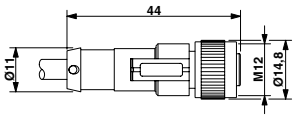
Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	PU
Angled connector					
22260301	AB-C4-M12MA-2,0PUR	2	250	4	1
22260302	AB-C4-M12MA-5,0PUR	5	250	4	1
22260303	AB-C4-M12MA-10,0PUR	10	250	4	1
Straight connector					
22260320	AB-C4-M12MS- 2,0PUR	2	250	4	1
22260321	AB-C4-M12MS- 5,0PUR	5	250	4	1
22260342	AB-C4-M12MS-10,0PUR	10	250	4	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A cable, M12 socket on free conductor end







S/A cable, M12 socket on free conductor end

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 4-pos. connector
- Socket design with M12 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- PUR halogen-free cable
- Permanently flexible control cable
- Design: 4 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, white, blue, black
- Sheath color black

Technical data

IP

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

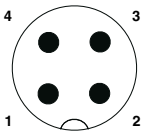
Material, knurls
Zinc die-cast, (nickel-plated)

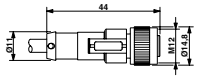
Material of grip body
TPU, hardly inflammable, self-extinguishing

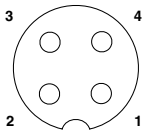
Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight socket						
22260322	AB-C4- 2,0PUR-M12FS	2	250	4	No	1
22260343	AB-C4-10,0PUR-M12FS	10	250	4	No	1
22260323	AB-C4- 5,0PUR-M12FS	5	250	4	No	1
Angled socket						
22260324	AB-C4- 2,0PUR-M12FA	2	250	4	No	1
22260325	AB-C4- 5,0PUR-M12FA	5	250	4	No	1
22260341	AB-C4-10,0PUR-M12FA	10	250	4	No	1
Straight socket with LEDs						
22260344	AB-C4- 2,0PUR-M12FS-2L	2	24	4	2 LEDs	1
22260345	AB-C4- 5,0PUR-M12FS-2L	5	24	4	2 LEDs	1
22260346	AB-C4-10,0PUR-M12FS-2L	10	24	4	2 LEDs	1
Angled socket with LEDs						
22260326	AB-C4- 2,0PUR-M12FA-3L	2	24	4	3 LEDs	1
22260327	AB-C4- 5,0PUR-M12FA-3L	5	24	4	3 LEDs	1
22260340	AB-C4-10,0PUR-M12FA-3L	10	24	4	3 LEDs	1

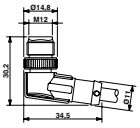
For detailed information please see the data sheet (www.lappautomation.com)

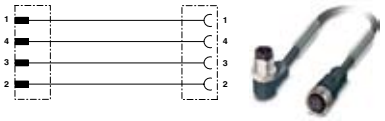
S/A cable, M12 connector on M12 socket











S/A cable, M12 connector on M12 socket

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 4-pos. connector
- Plug design with M12 thread on socket with M12 thread
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- PUR halogen-free cable
- Permanently flexible control cable
- Design: 4 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, white, blue, black
- Sheath color black

Technical data

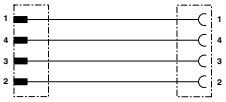
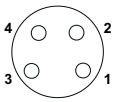
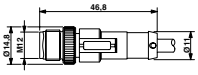
IP

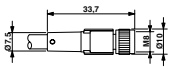
Degree of protection
IP65/IP68/IP69K
Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C
Contact material
CuSn
Contact surface material
Ni/Au
Coding
A - Standard
Material, knurls
Zinc die-cast, (nickel-plated)
Material of grip body
TPU, hardly inflammable, self-extinguishing

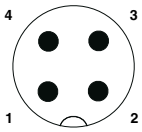
Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Angled connector on straight socket						
22260304	AB-C4-M12MA-0,3PUR-M12FS	0.3	250	4	No	1
22260305	AB-C4-M12MA-0,6PUR-M12FS	0.6	250	4	No	1
22260306	AB-C4-M12MA-1,0PUR-M12FS	1	250	4	No	1
22260307	AB-C4-M12MA-2,0PUR-M12FS	2	250	4	No	1
Straight connector on straight socket						
22260328	AB-C4-M12MS- 0,3PUR-M12FS	0.3	250	4	No	1
22260329	AB-C4-M12MS- 0,6PUR-M12FS	0.6	250	4	No	1
22260330	AB-C4-M12MS- 1,0PUR-M12FS	1	250	4	No	1
22260331	AB-C4-M12MS- 2,0PUR-M12FS	2	250	4	No	1
Straight connector on angled socket						
22260332	AB-C4-M12MS- 0,3PUR-M12FA	0.3	250	4	No	1
22260333	AB-C4-M12MS- 0,6PUR-M12FA	0.6	250	4	No	1
22260334	AB-C4-M12MS-1,0PUR-M12FA	1	250	4	No	1
22260335	AB-C4-M12MS-2,0PUR-M12FA	2	250	4	No	1
Straight connector on angled socket with LEDs						
22260336	AB-C4-M12MS-0,3PUR-M12FA-3L	0.3	24	4	3 LEDs	1
22260337	AB-C4-M12MS-0,6PUR-M12FA-3L	0.6	24	4	3 LEDs	1
22260338	AB-C4-M12MS-1,0PUR-M12FA-3L	1	24	4	3 LEDs	1
22260339	AB-C4-M12MS-2,0PUR-M12FA-3L	2	24	4	3 LEDs	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A cable, M12 connector on M8 socket





S/A cable, M12 connector on M8 socket

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. connector
- Plug design with M12 thread on socket with M8 thread
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

Design

- PUR halogen-free cable
- Permanently flexible control cable
- Design: 3 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Sheath color black

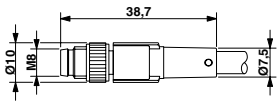
Technical data

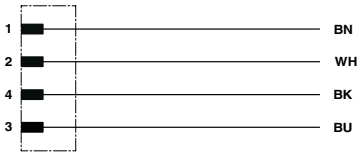
Degree of protection
IP65/IP68/IP69K
Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C
Contact material
CuSn
Contact surface material
Ni/Au
Coding
A - Standard
Material, knurls
Zinc die-cast, (nickel-plated)
Material of grip body
TPU, hardly inflammable, self-extinguishing

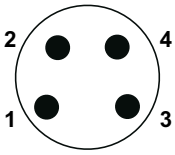
Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight connector on straight socket						
22260347	AB-C4-M12MS-0,3PUR-M8FS	0.3	30	3	No	1
22260349	AB-C4-M12MS-0,6PUR-M8FS	0.6	30	3	No	1
22260350	AB-C4-M12MS-1,0PUR-M8FS	1	30	3	No	1
22260348	AB-C4-M12MS-2,0PUR-M8FS	2	30	3	No	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A cable, M8 connector on free conductor end







S/A cable, M8 connector on free conductor end

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 4-pos. connector
- Plug design with M8 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- PUR halogen-free cable
- Permanently flexible control cable
- Design: 4 x 0.25 mm² (42 x 0.1 mm)
- Conductor colors brown, white, blue, black
- Sheath color black

Technical data

IP

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

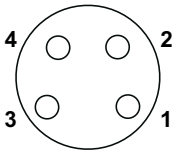
Material, knurls
Zinc die-cast, (nickel-plated)

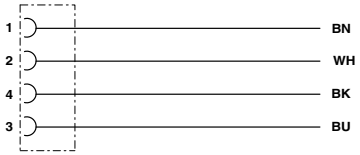
Material of grip body
TPU, hardly inflammable, self-extinguishing

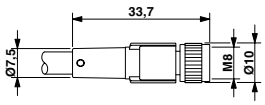
Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	PU
Straight connector					
22260300	AB-C4-M8MS-2,0PUR	2	30	3	1
22260308	AB-C4-M8MS-5,0PUR	5	30	3	1
22260318	AB-C4-M8MS-10,0PUR	10	30	3	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A cable, M8 socket on free conductor end







S/A cable, M8 socket on free conductor end

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 4-pos. connector
- Socket design with M8 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

Design

- PUR halogen-free cable
- Permanently flexible control cable
- Design: 4 x 0.25 mm² (42 x 0.1 mm)
- Conductor colors brown, white, blue, black
- Sheath color black

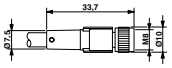
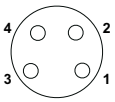
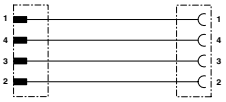
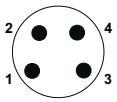
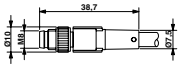
Technical data

Degree of protection
IP65/IP68/IP69K
Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C
Contact material
CuSn
Contact surface material
Ni/Au
Coding
A - Standard
Material, knurls
Zinc die-cast, (nickel-plated)
Material of grip body
TPU, hardly inflammable, self-extinguishing

Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight socket						
22260309	AB-C4- 2,0PUR-M8FS	2	30	3	No	1
22260310	AB-C4- 5,0PUR-M8FS	5	30	3	No	1
22260317	AB-C4-10,0PUR-M8FS	10	30	3	No	1
Angled socket						
22260311	AB-C4- 2,0PUR-M8FA	2	30	3	No	1
22260312	AB-C4- 5,0PUR-M8FA	5	30	3	No	1
22260319	AB-C4-10,0PUR-M8FA	10	30	3	No	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A cable, M8 connector on M8 socket

S/A cable, M8 connector on M8 socket

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 4-pos. connector
- Plug design with M8 thread on socket with M8 thread
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- PUR halogen-free cable
- Permanently flexible control cable
- Design: 4 x 0.25 mm² (42 x 0.1 mm)
- Conductor colors brown, white, blue, black
- Sheath color black

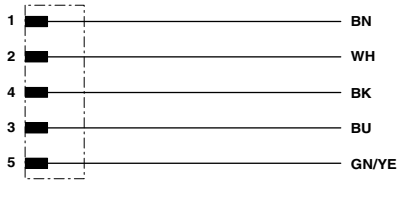
Technical data

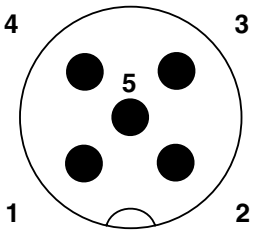
Degree of protection
IP65/IP68/IP69K
Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C
Contact material
CuSn
Contact surface material
Ni/Au
Coding
A - Standard
Material, knurls
Zinc die-cast, (nickel-plated)
Material of grip body
TPU, hardly inflammable, self-extinguishing

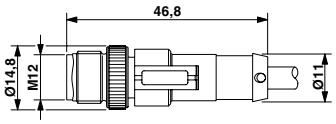
Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight connector on straight socket						
22260313	AB-C4-M8MS-0,3PUR-M8FS	0.3	30	3	No	1
22260314	AB-C4-M8MS-0,6PUR-M8FS	0.6	30	3	No	1
22260315	AB-C4-M8MS-1,0PUR-M8FS	1	30	3	No	1
22260316	AB-C4-M8MS-2,0PUR-M8FS	2	30	3	No	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A cable, M12 connector on free conductor end







S/A cable, M12 connector on free conductor end

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 5-pos. connector
- Plug design with M12 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- PUR halogen-free cable
- Permanently flexible control cable
- Design: 5 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, white, blue, black, green/yellow
- Sheath color black

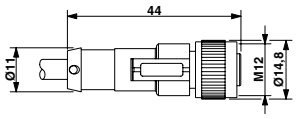
Technical data

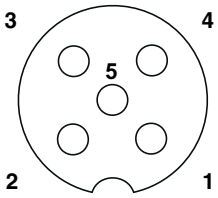
Degree of protection
IP65/IP68/IP69K
Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C
Contact material
CuSn
Contact surface material
Ni/Au
Coding
A - Standard
Material, knurls
Zinc die-cast, (nickel-plated)
Material of grip body
TPU, hardly inflammable, self-extinguishing

Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	PU
Straight connector					
22260400	AB-C5-M12MS-2,0PUR	2	60	4	1
22260401	AB-C5-M12MS-5,0PUR	5	60	4	1
22260414	AB-C5-M12MS-10,0PUR	10	60	4	1
Angled connector					
22260402	AB-C5-M12MA-2,0PUR	2	60	4	1
22260403	AB-C5-M12MA-5,0PUR	5	60	4	1
22260417	AB-C5-M12MA-10,0PUR	10	60	4	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A cable, M12 socket on free conductor end





S/A cable, M12 socket on free conductor end

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 5-pos. connector
- Socket design with M12 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- PUR halogen-free cable
- Permanently flexible control cable
- Design: 5 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, white, blue, black, green/yellow
- Sheath color black

Technical data

IP

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

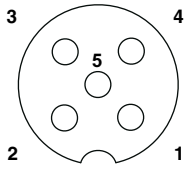
Material, knurls
Zinc die-cast, (nickel-plated)

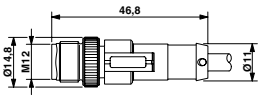
Material of grip body
TPU, hardly inflammable, self-extinguishing

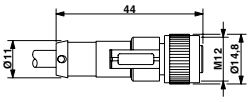
Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight socket						
22260404	AB-C5- 2,0PUR-M12FS	2	60	4	No	1
22260405	AB-C5- 5,0PUR-M12FS	5	60	4	No	1
22260415	AB-C5-10,0PUR-M12FS	10	60	4	No	1
Angled socket						
22260406	AB-C5- 2,0PUR-M12FA	2	60	4	No	1
22260407	AB-C5- 5,0PUR-M12FA	5	60	4	No	1
22260418	AB-C5-10,0PUR-M12FA	10	60	4	No	1
Angled socket with LEDs						
22260408	AB-C5- 2,0PUR-M12FA-3L	2	24	4	3 LEDs	1
22260409	AB-C5- 5,0PUR-M12FA-3L	5	24	4	3 LEDs	1
22260416	AB-C5-10,0PUR-M12FA-3L	10	24	4	3 LEDs	1

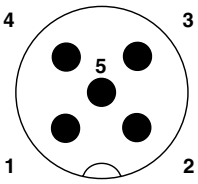
For detailed information please see the data sheet (www.lappautomation.com)

Sensor/actuator cable, M12 connector on M12 socket









Sensor/actuator cable, M12 connector on M12 socket

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 5-pos. connector
- Plug design with M12 thread on socket with M12 thread
- Drag chain suitable
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

cULus RoHS

Design

- PUR halogen-free cable
- Permanently flexible control cable
- Design: 5 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, white, blue, black, green/yellow
- Sheath color black

Technical data

IP

Degree of protection
IP65/IP68/IP69K
Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C
Contact material
CuSn
Contact surface material
Ni/Au
Coding
A - Standard
Material, knurls
Zinc die-cast, (nickel-plated)
Material of grip body
TPU, hardly inflammable, self-extinguishing

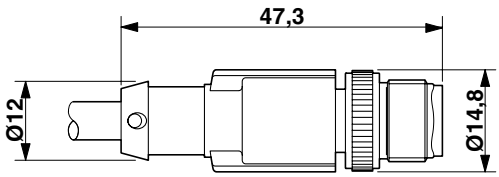
Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight connector on straight socket						
22260410	AB-C5-M12MS-0,3PUR-M12FS	0.3	60	4	No	1
22260411	AB-C5-M12MS-0,6PUR-M12FS	0.6	60	4	No	1
22260412	AB-C5-M12MS-1,0PUR-M12FS	1	60	4	No	1
22260413	AB-C5-M12MS-2,0PUR-M12FS	2	60	4	No	1

Special cable length and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

S/A cable, shielded, M12 connector on free conductor end

Info

- Drag chain suitable



S/A cable, shielded, M12 connector on free conductor end

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3, 4 and 5-position version
- Plug design with M12 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- PUR halogen-free shielded cable
- Permanently flexible control cable
- Design: 3 x 0.34 mm² (42 x 0.1 mm)
  4 x 0.34 mm² (42 x 0.1 mm)
  5 x 0.34 mm² (42 x 0.1 mm)
- Sheath color black

Technical data

IP

Degree of protection
IP65/IP67/IP69K

Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-25°C up to 80°C
Cable, flexible installation
-5°C to 80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

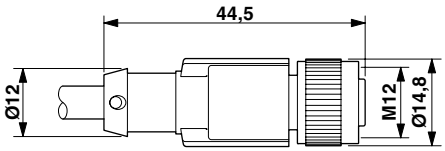
Material of grip body
TPU, hardly inflammable, self-extinguishing

Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	PU
3 pole straight connector					
22260453	AB-C3-M12MS- 2,0PUR-SH	2	250	4	1
22260454	AB-C3-M12MS- 5,0PUR-SH	5	250	4	1
22260455	AB-C3-M12MS-10,0PUR-SH	10	250	4	1
4 pole straight connector					
22260459	AB-C4-M12MS- 2,0PUR-SH	2	250	4	1
22260460	AB-C4-M12MS- 5,0PUR-SH	5	250	4	1
22260461	AB-C4-M12MS-10,0PUR-SH	10	250	4	1
5 pole straight connector					
22260465	AB-C5-M12MS- 2,0PUR-SH	2	60	4	1
22260466	AB-C5-M12MS- 5,0PUR-SH	5	60	4	1
22260467	AB-C5-M12MS-10,0PUR-SH	10	60	4	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A cable, shielded, M12 socket on free conductor end

Info
- **Drag chain suitable**



S/A cable, shielded, M12 socket on free conductor end

Benefits
- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range
- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features
- 3, 4 and 5-position version
- Socket design with M12 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

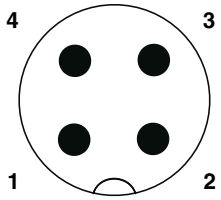
Design
- PUR halogen-free shielded cable
- Permanently flexible control cable
- Design: 3 x 0.34 mm² (42 x 0.1 mm)
  4 x 0.34 mm² (42 x 0.1 mm)
  5 x 0.34 mm² (42 x 0.1 mm)
- Sheath color black

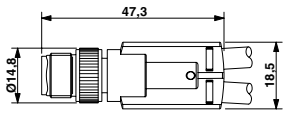
Technical data
Degree of protection
IP65/IP67/IP69K
Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-25°C up to 80°C
Cable, flexible installation
-5°C to 80°C
Contact material
CuSn
Contact surface material
Ni/Au
Coding
A - Standard
Material, knurls
Zinc die-cast, (nickel-plated)
Material of grip body
TPU, hardly inflammable, self-extinguishing

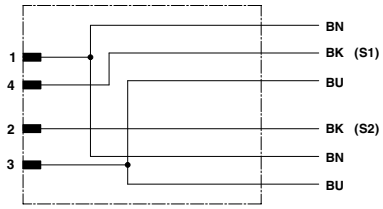
Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
3 pole straight socket						
22260450	AB-C3- 2,0PUR-M12FS-SH	2	250	4	No	1
22260451	AB-C3- 5,0PUR-M12FS-SH	5	250	4	No	1
22260452	AB-C3-10,0PUR-M12FS-SH	10	250	4	No	1
4 pole straight socket						
22260456	AB-C4- 2,0PUR-M12FS-SH	2	250	4	No	1
22260457	AB-C4- 5,0PUR-M12FS-SH	5	250	4	No	1
22260458	AB-C4-10,0PUR-M12FS-SH	10	250	4	No	1
5 pole straight socket						
22260462	AB-C5- 2,0PUR-M12FS-SH	2	60	4	No	1
22260463	AB-C5- 5,0PUR-M12FS-SH	5	60	4	No	1
22260464	AB-C5-10,0PUR-M12FS-SH	10	60	4	No	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A cable, straight M12 Y plug on 2x free conductor end







S/A cable, straight M12 Y plug on 2x free conductor end

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. connector
- Design as M12 Y plug with 2 conductor exits
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- PUR halogen-free cable
- Permanently flexible control cable
- Design: 3 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Sheath color black

Technical data

IP

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

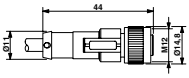
Material, knurls
Zinc die-cast, (nickel-plated)

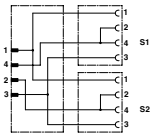
Material of grip body
TPU, hardly inflammable, self-extinguishing

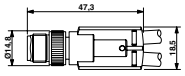
Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	PU
Y plug on 2x free conductor end					
22260500	AB-C3-M12Y-2,0PUR	2	250	4	1
22260513	AB-C3-M12Y-5,0PUR	5	250	4	1
22260526	AB-C3-M12Y-10,0PUR	10	250	4	1

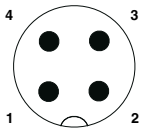
For detailed information please see the data sheet (www.lappautomation.com)

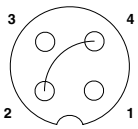
S/A cable, straight M12 Y plug on 2x M12 socket, PIN 2 + 4, bridged











S/A cable, straight M12 Y plug on 2x M12 socket, PIN 2 + 4, bridged

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. connector
- Design as M12 Y plug with 2 conductor exits
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- PUR halogen-free cable
- Permanently flexible control cable
- Design: 3 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Sheath color black

Technical data

IP

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

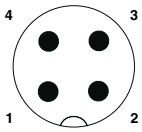
Material, knurls
Zinc die-cast, (nickel-plated)

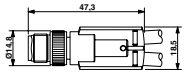
Material of grip body
TPU, hardly inflammable, self-extinguishing

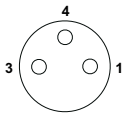
Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Y plug on straight socket						
22260501	AB-C3-M12Y-0,3PUR-M12FS-B	0.3	250	4	No	1
22260502	AB-C3-M12Y-0,6PUR-M12FS-B	0.6	250	4	No	1
22260503	AB-C3-M12Y-1,0PUR-M12FS-B	1	250	4	No	1
22260504	AB-C3-M12Y-2,0PUR-M12FS-B	2	250	4	No	1
Y plug on angled socket						
22260505	AB-C3-M12Y-0,3PUR-M12FA-B	0.3	250	4	No	1
22260506	AB-C3-M12Y-0,6PUR-M12FA-B	0.6	250	4	No	1
22260507	AB-C3-M12Y-1,0PUR-M12FA-B	1	250	4	No	1
22260508	AB-C3-M12Y-2,0PUR-M12FA-B	2	250	4	No	1
Y plug on angled socket with LEDs						
22260509	AB-C3-M12Y-0,3PUR-M12FA-2L-B	0.3	24	4	2 LEDs	1
22260510	AB-C3-M12Y-0,6PUR-M12FA-2L-B	0.6	24	4	2 LEDs	1
22260511	AB-C3-M12Y-1,0PUR-M12FA-2L-B	1	24	4	2 LEDs	1
22260512	AB-C3-M12Y-2,0PUR-M12FA-2L-B	2	24	4	2 LEDs	1

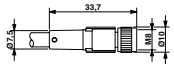
For detailed information please see the data sheet (www.lappautomation.com)

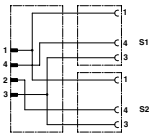
S/A cable, straight M12 Y plug on 2x M8 socket











S/A cable, straight M12 Y plug on 2x M8 socket

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. connector
- Design as M12 Y plug with 2 conductor exits
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- PUR halogen-free cable
- Permanently flexible control cable
- Design: 3 x 0.25 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Sheath color black

Technical data

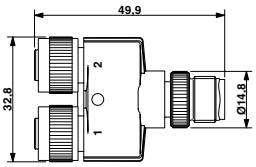
IP

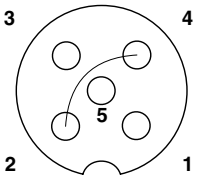
Degree of protection
IP65/IP68/IP69K
Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C
Contact material
CuSn
Contact surface material
Ni/Au
Coding
A - Standard
Material, knurls
Zinc die-cast, (nickel-plated)
Material of grip body
TPU, hardly inflammable, self-extinguishing

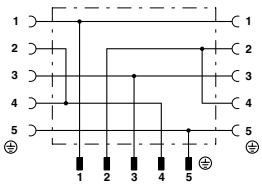
Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Y plug on straight socket						
22260514	AB-C3-M12Y-0,3PUR-M8FS	0.3	60	3	No	1
22260515	AB-C3-M12Y-0,6PUR-M8FS	0.6	60	3	No	1
22260516	AB-C3-M12Y-1,0PUR-M8FS	1	60	3	No	1
22260517	AB-C3-M12Y-2,0PUR-M8FS	2	60	3	No	1
Y plug on angled socket						
22260518	AB-C3-M12Y-0,3PUR-M8FA	0.3	60	3	No	1
22260519	AB-C3-M12Y-0,6PUR-M8FA	0.6	60	3	No	1
22260520	AB-C3-M12Y-1,0PUR-M8FA	1	60	3	No	1
22260521	AB-C3-M12Y-2,0PUR-M8FA	2	60	3	No	1
Y plug on angled socket with LEDs						
22260522	AB-C3-M12Y-0,3PUR-M8FA-2L	0.3	24	3	2 LEDs	1
22260523	AB-C3-M12Y-0,6PUR-M8FA-2L	0.6	24	3	2 LEDs	1
22260524	AB-C3-M12Y-1,0PUR-M8FA-2L	1	24	3	2 LEDs	1
22260525	AB-C3-M12Y-2,0PUR-M8FA-2L	2	24	3	2 LEDs	1

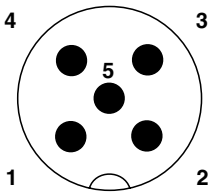
For detailed information please see the data sheet (www.lappautomation.com)

Y distributor









Y distributor

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3and 5-position version
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

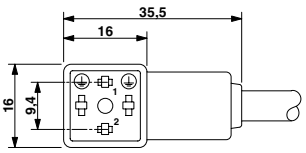
Technical data

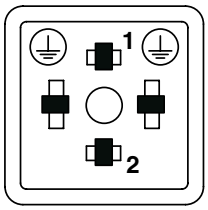
Degree of protection
IP65/IP67
Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Contact material
CuZn
Contact surface material
Ni/Au
Coding
A - Standard
Material, knurls
Zinc die-cast, (nickel-plated)
Material of grip body
TPU, hardly inflammable, self-extinguishing

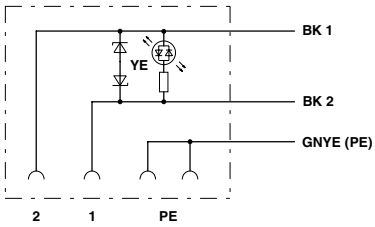
Part number	Type	Nominal voltage U_N in V	Nominal current I_N in A	Number of poles	PU
M12 connector Y distributor on 2x bridged M12 socket					
22260600	AB-C3-M12Y-2XM12FS B E	60	4	3	1
M12 connector Y distributor on 2x M12 socket					
22260601	AB-C3-M12Y-2XM12FS E	60	4	3	1
M12 connector Y distributor on 2x parallel M12 socket					
22260602	AB-C5-M12Y-2XM12FS V	60	4	5	1
M8 connector Y distributor on 2x M8 socket					
22260603	AB-C3-M8Y-2XM8FS	30	3	3	1
M8 connector Y distributor 2x parallel M8 socket					
22260604	AB-C3-M8Y-2XM8FS V	60	3	3	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A cable, 3-pos., valve connector on free conductor end







S/A cable, 3-pos., valve connector on free conductor end

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. valve plug
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Design

- PUR/PVC cable
- Can be used in drag chain
- Design: 3 x 0.75 mm² (24 x 0.2 mm)
- Conductor colors black 1, black 2, green/yellow
- Sheath color black

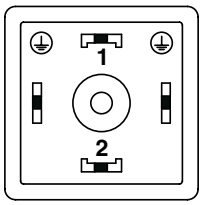
Technical data

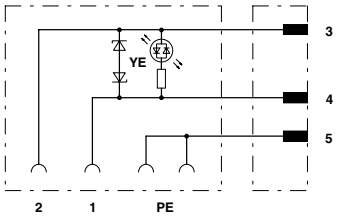
Degree of protection
IP 67
Ambient temperature (operation)
Cable, fixed installation
-30 °C up to 80 °C
Cable, flexible installation
-5 °C up to 70 °C
Contact material
CuSn
Contact surface material
Ag
Coding
A - Standard

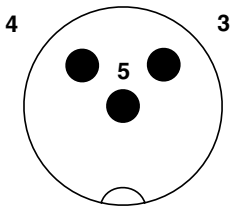
Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Valve connector Type A						
22260584	AB-C3- 2,0PUR-A-1L-S	2	24	4	1 LED	1
22260576	AB-C3- 5,0PUR-A-1L-S	5	24	4	1 LED	1
22260577	AB-C3-10,0PUR-A-1L-S	10	24	4	1 LED	1
Valve connector Type B						
22260585	AB-C3- 2,0PUR-B-1L-S	2	24	4	1 LED	1
22260578	AB-C3- 5,0PUR-B-1L-S	5	24	4	1 LED	1
22260579	AB-C3-10,0PUR-B-1L-S	10	24	4	1 LED	1
Valve connector Type BI						
22260586	AB-C3- 2,0PUR-BI-1L-S	2	24	4	1 LED	1
22260580	AB-C3- 5,0PUR-BI-1L-S	5	24	4	1 LED	1
22260581	AB-C3-10,0PUR-BI-1L-S	10	24	4	1 LED	1
Valve connector Type C						
22260587	AB-C3- 2,0PUR-C-1L-S	2	24	4	1 LED	1
22260582	AB-C3- 5,0PUR-C-1L-S	5	24	4	1 LED	1
22260583	AB-C3-10,0PUR-C-1L-S	10	24	4	1 LED	1
Valve connector Type CI						
22260588	AB-C3- 2,0PUR-CI-1L-S	2	24	4	1 LED	1
22260574	AB-C3- 5,0PUR-CI-1L-S	5	24	4	1 LED	1
22260575	AB-C3-10,0PUR-CI-1L-S	10	24	4	1 LED	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A cable, 3-pos., valve connector on straight M12 plug







S/A cable, 3-pos., valve connector on straight M12 plug

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. valve plug
- Protection type: IP67
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Design

- PUR/PVC cable
- Can be used in drag chain
- Design: 3 x 0.75 mm² (24 x 0.2 mm)
- Conductor colors black 1, black 2, green/yellow
- Sheath color black

Technical data

IP

Degree of protection
IP 67

Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-30°C up to 80°C
Cable, flexible installation
-5°C up to 70°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

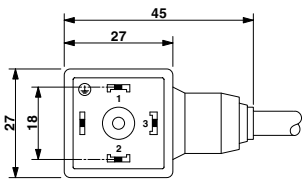
Material, knurls
Zinc die-cast, (nickel-plated)

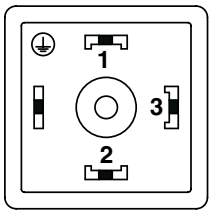
Material of grip body
TPU, hardly inflammable, self-extinguishing

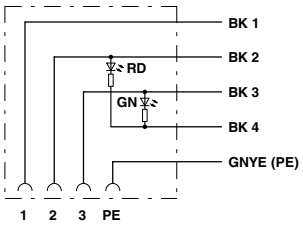
Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight connector on valve connector type A						
22260550	AB-C3-M12MS-0,3PUR-A-1L-S	0.3	24	4	1 LED	1
22260551	AB-C3-M12MS-0,6PUR-A-1L-S	0.6	24	4	1 LED	1
22260552	AB-C3-M12MS-1,0PUR-A-1L-S	1	24	4	1 LED	1
22260553	AB-C3-M12MS-2,0PUR-A-1L-S	2	24	4	1 LED	1
Straight connector on valve connector type BI						
22260554	AB-C3-M12MS-0,3PUR-BI-1L-S	0.3	24	4	1 LED	1
22260555	AB-C3-M12MS-0,6PUR-BI-1L-S	0.6	24	4	1 LED	1
22260556	AB-C3-M12MS-1,0PUR-BI-1L-S	1	24	4	1 LED	1
22260557	AB-C3-M12MS-2,0PUR-BI-1L-S	2	24	4	1 LED	1
Straight connector on valve connector type B						
22260558	AB-C3-M12MS-0,3PUR-B-1L-S	0.3	24	4	1 LED	1
22260559	AB-C3-M12MS-0,6PUR-B-1L-S	0.6	24	4	1 LED	1
22260560	AB-C3-M12MS-1,0PUR-B-1L-S	1	24	4	1 LED	1
22260561	AB-C3-M12MS-2,0PUR-B-1L-S	2	24	4	1 LED	1
Straight connector on valve connector type CI						
22260562	AB-C3-M12MS-0,3PUR-CI-1L-S	0.3	24	4	1 LED	1
22260563	AB-C3-M12MS-0,6PUR-CI-1L-S	0.6	24	4	1 LED	1
22260564	AB-C3-M12MS-1,0PUR-CI-1L-S	1	24	4	1 LED	1
22260565	AB-C3-M12MS-2,0PUR-CI-1L-S	2	24	4	1 LED	1
Straight connector on valve connector type C						
22260566	AB-C3-M12MS-0,3PUR-C-1L-S	0.3	24	4	1 LED	1
22260567	AB-C3-M12MS-0,6PUR-C-1L-S	0.6	24	4	1 LED	1
22260568	AB-C3-M12MS-1,0PUR-C-1L-S	1	24	4	1 LED	1
22260569	AB-C3-M12MS-2,0PUR-C-1L-S	2	24	4	1 LED	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A cable, 5-pos., valve connector on free conductor end, for pressure switch







S/A cable, 5-pos., valve connector on free conductor end, for pressure switch

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 5-pos. valve plug
- Valve plug for pressure switch, PE bridged, 18 mm contact spacing
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Design

- PUR/PVC cable
- Can be used in drag chain
- Design: 5 x 0.75 mm² (24 x 0.2 mm)
- Conductor colors black 1, black 2, black 3, black 4, green/yellow
- Sheath color black

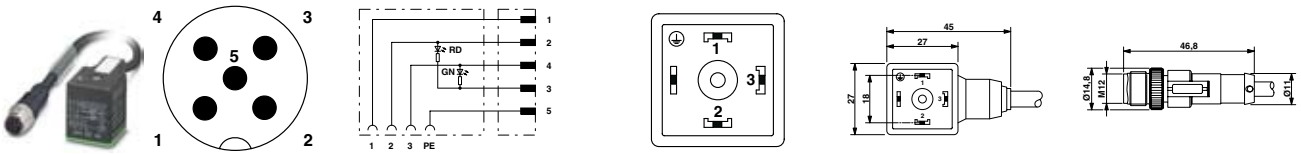
Technical data

Degree of protection
IP 67
Ambient temperature (operation)
Cable, fixed installation
-30 °C up to 80 °C
Cable, flexible installation
-5 °C up to 70 °C
Contact material
CuSn
Contact surface material
Ag
Coding
A - Standard

Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Valve connector for pressure switch						
22260589	AB-C5-2,0PUR-AD-2L	2	24	4	2 LEDs	1
22260590	AB-C5-5,0PUR-AD-2L	5	24	4	2 LEDs	1
22260591	AB-C5-10,0PUR-AD-2L	10	24	4	2 LEDs	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A cable, 5-pos., valve connector on straight M12 plug, for pressure switch



S/A cable, 5-pos., valve connector on straight M12 plug, for pressure switch

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 5-pos. valve plug
- Valve plug for pressure switch, PE bridged, 18 mm contact spacing
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Design

- PUR/PVC cable
- Can be used in drag chain
- Design: 5 x 0.75 mm² (24 x 0.2 mm)
- Conductor colors black 1, black 2, black 3, black 4, green/yellow
- Sheath color black

Technical data

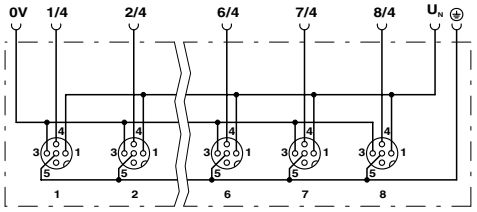
IP

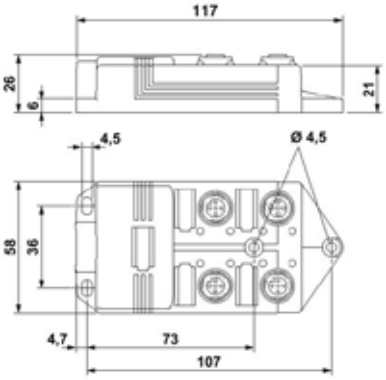
Degree of protection
IP 67
Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-30°C up to 80°C
Cable, flexible installation
-5°C up to 70°C
Contact material
CuSn
Contact surface material
Ni/Au
Coding
A - Standard
Material, knurls
Zinc die-cast, (nickel-plated)
Material of grip body
TPU, hardly inflammable, self-extinguishing

Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight connector on valve connector for pressure switch						
22260573	AB-C5-M12MS-0,3PUR-AD-2L	0.3	24	4	2 LEDs	1
22260572	AB-C5-M12MS-0,6PUR-AD-2L	0.6	24	4	2 LEDs	1
22260571	AB-C5-M12MS-1,0PUR-AD-2L	1	24	4	2 LEDs	1
22260570	AB-C5-M12MS-2,0PUR-AD-2L	2	24	4	2 LEDs	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A box with M12 slots and master cable





S/A box with M12 slots and master cable

Benefits

- Inexpensive and efficient wiring of sensors and actuators
- Instead of numerous individual conductors, one master cable is laid to the control unit
- The master cable is designed as a hybrid cable carrying signals and power
- There are no assembly costs because the master cable is pre-assembled

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- With permanently connected master cable
- Single or double-occupied sensor/actuator box
- With LEDs for sensor status display without LEDs for analog signals
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

c UL us RoHS

Design

- PUR/PVC cable
- Permanently flexible control cable
- Sheath color black

Technical data

IP **Degree of protection**
IP65/IP67/IP69K

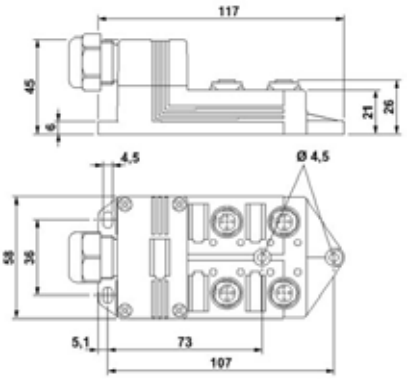
Amp. **Max. current carrying capacity per path**
2 A

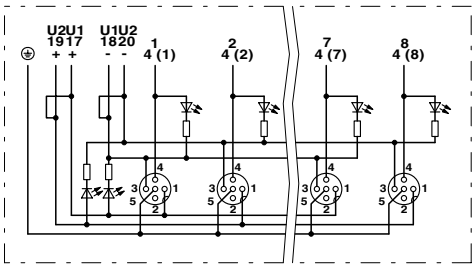
Amp. **Current carrying capacity per slot**
4 A

Part number	Type	Length in m	Number of slots	Nominal voltage U_N in V	SACB total current in A	Status display	PU
Single occupied boxes							
22260010	AB-B4-M12-4-5,0PUR	5.0	4	120	12	No	1
22260011	AB-B4-M12-4-10,0PUR	10.0	4	120	12	No	1
22260014	AB-B8-M12-8-5,0PUR	5.0	8	120	12	No	1
22260015	AB-B8-M12-8-10,0PUR	10.0	8	120	12	No	1
22260018	AB-B4-M12L-4-5,0PUR	5.0	4	24	12	LEDs	1
22260019	AB-B4-M12L-4-10,0PUR	10.0	4	24	12	LEDs	1
22260022	AB-B8-M12L-8-5,0PUR	5.0	8	24	12	LEDs	1
22260023	AB-B8-M12L-8-10,0PUR	10.0	8	24	12	LEDs	1
Double occupied boxes							
22260012	AB-B4-M12-8-5,0PUR	5.0	4	120	12	No	1
22260013	AB-B4-M12-8-10,0PUR	10.0	4	120	12	No	1
22260016	AB-B8-M12-16-5,0PUR	5.0	8	120	12	No	1
22260017	AB-B8-M12-16-10,0PUR	10.0	8	120	12	No	1
22260020	AB-B4-M12L-8-5,0PUR	5.0	4	24	12	LEDs	1
22260021	AB-B4-M12L-8-10,0PUR	10.0	4	24	12	LEDs	1
22260024	AB-B8-M12L-16-5,0PUR	5.0	8	24	12	LEDs	1
22260025	AB-B8-M12L-16-10,0PUR	10.0	8	24	12	LEDs	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A box with M12 slots and pluggable master cable connection





S/A box with M12 slots and pluggable master cable connection

Benefits

- Inexpensive and efficient wiring of sensors and actuators
- Instead of numerous individual conductors, one master cable is laid to the control unit
- The pluggable connection ensures universal pluggability as well as simple on-site assembly

Product features

- With pluggable screw connection
- Single or double-occupied sensor/actuator box
- With LEDs for sensor status display without LEDs for analog signals
- Free of substances which would hinder coating with paint or varnish

Technical data

Degree of protection
IP65/IP67/IP69K

Ambient temperature (operation)
-30°C bis 80°C

Max. current carrying capacity per path
2 A

Current carrying capacity per slot
4 A

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

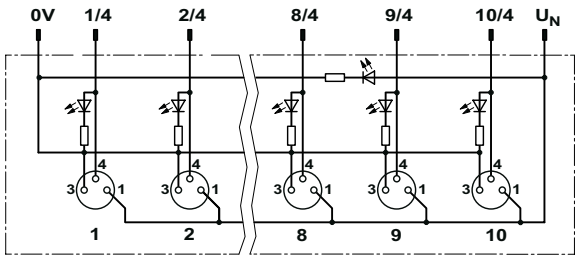
Approvals (Norm references)

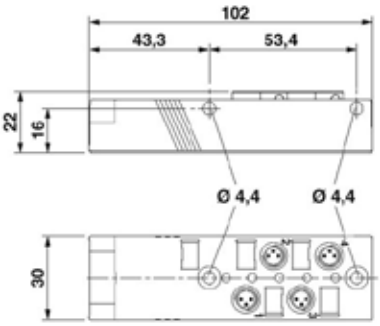
c UL us RoHS

Part number	Type	Number of slots	Nominal voltage U_N in V	SACB total current in A	Status display	PU
Single occupied boxes						
22260005	AB-B4-M12-4-C	4	120	10	No	1
22260007	AB-B8-M12-8-C	8	120	10	No	1
22260001	AB-B4-M12L-4-C	4	24	10	LEDs	1
22260003	AB-B8-M12L-8-C	8	24	10	LEDs	1
Double occupied boxes						
22260006	AB-B4-M12-8-C	4	120	10	No	1
22260008	AB-B8-M12-16-C	8	120	10	No	1
22260002	AB-B4-M12L-8-C	4	24	10	LEDs	1
22260004	AB-B8-M12L-16-C	8	24	10	LEDs	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A box with M8 slots and master cable





S/A box with M8 slots and master cable

Benefits

- Inexpensive and efficient wiring of sensors and actuators
- Instead of numerous individual conductors, one master cable is laid to the control unit
- The master cable is designed as a hybrid cable carrying signals and power
- There are no assembly costs because the master cable is pre-assembled

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- With permanently connected master cable
- Single-occupied sensor/actuator box
- LEDs indicate the operating mode of the distributor and the status of the sensors
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

c UL us RoHS

Design

- PUR/PVC cable
- Permanently flexible control cable
- Sheath color black

Technical data

IP **Degree of protection**
IP65/IP67

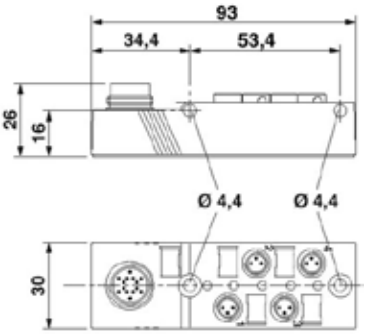
Ambient temperature (operation)
-30°C bis 80°C
Cable, fixed installation
-40°C up to 90°C
Cable, flexible installation
-5°C up to 80°C

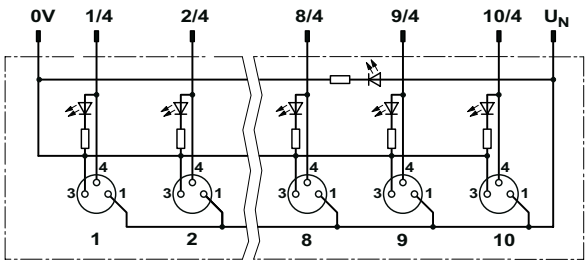
Amp. **Current carrying capacity per slot**
2 A

Part number	Type	Length in m	Number of slots	Nominal voltage U_N in V	SACB total current in A	Status display	PU
with M 8 master cable connection							
22260026	AB-B4-M8L-4-5,0PUR	5.0	4	24	6	LEDs	1
22260027	AB-B4-M8L-4-10,0PUR	10.0	4	24	6	LEDs	1
22260028	AB-B6-M8L-6-5,0PUR	5.0	6	24	6	LEDs	1
22260029	AB-B6-M8L-6-10,0PUR	10.0	6	24	6	LEDs	1
22260030	AB-B8-M8L-8-5,0PUR	5.0	8	24	6	LEDs	1
22260031	AB-B8-M8L-8-10,0PUR	10.0	8	24	6	LEDs	1
22260032	AB-B10-M8L-10-5,0PUR	5.0	10	24	6	LEDs	1
22260033	AB-B10-M8L-10-10,0PUR	10.0	10	24	6	LEDs	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A box, M8 slots and pluggable master cable connection





S/A box, M8 slots and pluggable master cable connection

Benefits

- Inexpensive and efficient wiring of sensors and actuators
- Instead of numerous individual conductors, one master cable is laid to the control unit
- The pluggable connection ensures universal pluggability as well as simple on-site assembly

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- With M12/M16 plug-in connection
- Single-occupied sensor/actuator box
- LEDs indicate the operating mode of the distributor and the status of the sensors
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

c UL us RoHS

Technical data

Degree of protection
IP65/IP67

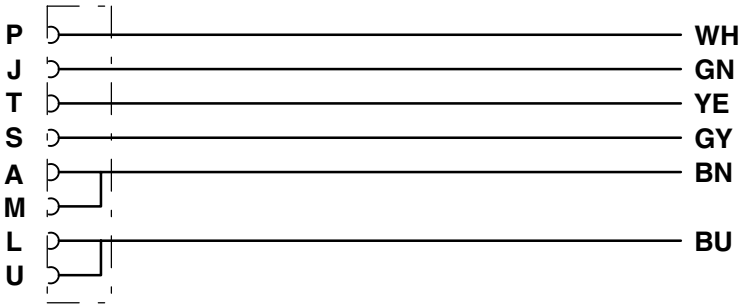
Ambient temperature (operation)
-30°C bis 80°C

Current carrying capacity per slot
2 A

Part number	Type	Number of slots	Nominal voltage U_N in V	SACB total current in A	Status display	PU
With M16 master cable connection						
22260034	AB-B4-M8L-4-M16	4	24	6	LEDs	1
22260035	AB-B6-M8L-6-M16	6	24	6	LEDs	1
22260036	AB-B8-M8L-8-M16	8	24	6	LEDs	1
22260037	AB-B10-M8L-10-M16	10	24	6	LEDs	1
With M12 master cable connection						
22260038	AB-B4-M8L-4-M12	4	24	4	LEDs	1
22260039	AB-B6-M8L-6-M12	6	24	4	LEDs	1

For detailed information please see the data sheet (www.lappautomation.com)

M16 socket with connected master cable



M16 socket with connected master cable

Benefits

- Connecting cable for M8 boxes with 4 to 10 slots
- M16 connection

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- Design as socket variant with M16 thread
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Design

- PUR/PVC cable
- Permanently flexible control cable
- Sheath color black

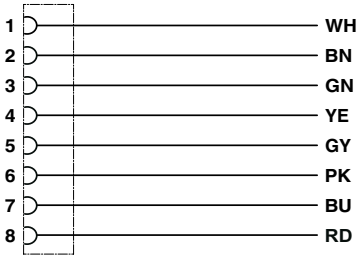
Technical data

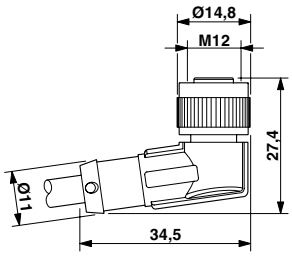
Degree of protection
IP 67
Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 90°C
Cable, flexible installation
-5°C up to 80°C
Contact material
CuZn
Contact surface material
Ni/Au
Coding
A - Standard
Material, knurls
Nickel-plated brass
Material of grip body
TPU, hardly inflammable, self-extinguishing

Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	PU
8 pole angled socket					
22260607	AB-C8- 5,0PUR-M16FA	5	125	4	1
22260608	AB-C8-10,0PUR-M16FA	10	125	4	1
10 pole angled socket					
22260609	AB-C10- 5,0PUR-M16FA	5	125	4	1
22260610	AB-C10-10,0PUR-M16FA	10	125	4	1
12 pole angled socket					
22260611	AB-C12- 5,0PUR-M16FA	5	125	4	1
22260612	AB-C12-10,0PUR-M16FA	10	125	4	1
14 pole angled socket					
22260613	AB-C14- 5,0PUR-M16FA	5	125	4	1
22260614	AB-C14-10,0PUR-M16FA	10	125	4	1

For detailed information please see the data sheet (www.lappautomation.com)

M12 socket with connected master cable





M12 socket with connected master cable

Benefits

- Connecting cable for M8 boxes with 4 to 6 slots
- M12 connection

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- Design as socket variant with M12 thread
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

RoHS

Design

- PUR/PVC cable
- Permanently flexible control cable
- Sheath color black

Technical data

Degree of protection
IP65/IP68/IP69K
Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Cable, fixed installation
-40°C up to 80°C
Cable, flexible installation
-5°C up to 80°C
Contact material
CuZn
Contact surface material
Ni/Au
Coding
A - Standard
Material, knurls
Zinc die-cast, (nickel-plated)
Material of grip body
TPU, hardly inflammable, self-extinguishing

Part number	Type	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	PU
8 pole angled connector					
22260615	AB-C8-5,0PUR-M12FA	5	30	2	1
22260616	AB-C8-10,0PUR-M12FA	10	30	2	1

For detailed information please see the data sheet (www.lappautomation.com)

Screw plug for unoccupied sockets

Screw plug for unoccupied sockets

Benefits

- Protective cap for unoccupied M8/M12 slots

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Part number	Type	PU
M12		
22260605	AB-B-M12-PC	1
M8		
22260606	AB-B-M8-PC	1

For detailed information please see the data sheet (www.lappautomation.com)

Complete connection hood with 4, 6 or 8 slots

Complete connection hood with 4, 6 or 8 slots

Benefits

- Pluggable screw connection as accessory for S/A-Box with pluggable master cable connection
- The pluggable connection ensures universal pluggability as well as simple on-site assembly

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- Accessory for SA-Box with plugable master cable connection
- With pluggable screw connection

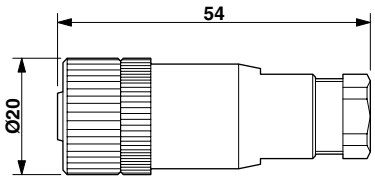
Approvals (Norm references)

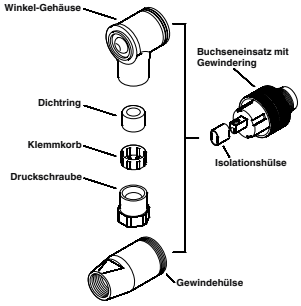
RoHS

Part number	Type	PU
Accessories		
22260009	AB-B-HC	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A M12 connectors that can be assembled





S/A M12 connectors that can be assembled

Benefits

- Quick and easy on-site assembly
- Creating individual cable lengths
- Standardized interfaces
- No special tools required for connecting the cables (quick connection designs)

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 4and 5-position version
- Free of substances which would hinder coating with paint or varnish
- Fast connection and screw connection design

Approvals (Norm references)

RoHS

Suitable cables

- Cable for sensor / actuator components 63

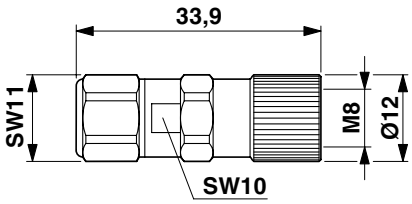
Technical data

Degree of protection
IP 67
Ambient temperature (operation)
Plug / socket
-40 °C to 85 °C
Contact material
CuZn
Contact surface material
CuSnZn
Coding
A - Standard

Part number	Type	Nominal voltage U_N in V	Nominal current I_N in A	Conductor cross section stranded min. in mm²	Conductor cross section stranded max. in mm²	Number of poles	Cable Diameter min in mm	Cable Diameter max in mm	PU
Straight connector									
22260132	AB-C4-M12MS-F0,34	125	4	0.14	0.34	4	3.5	6	1
22260134	AB-C4-M12MS-F0,75	250	4	0.34	0.75	4	4	8	1
22260129	AB-C5-M12MS-PG 7	60	4	0.25	0.75	5	4	6	1
Straight socket									
22260131	AB-C4-M12FS-F0,34	125	4	0.14	0.34	4	3.5	6	1
22260133	AB-C4-M12FS-F0,75	250	4	0.34	0.75	4	4	8	1
22260127	AB-C5-M12FS-PG 7	60	4	0.25	0.75	5	4	6	1
Angled connector									
22260130	AB-C5-M12MA-PG 7	60	4	0.25	0.75	5	4	6	1
Angled socket									
22260128	AB-C5-M12FA-PG 7	60	4	0.25	0.75	5	4	6	1
Shielded straight connector									
22260135	AB-C5-M12MS-PG9-SH	60	4	0.25	0.75	5	6	8	1
Shielded straight socket									
22260136	AB-C5-M12FS-PG9-SH	60	4	0.25	0.75	5	6	8	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A M8 connectors that can be assembled



S/A M8 connectors that can be assembled

Benefits
- Quick and easy on-site assembly
- Creating individual cable lengths
- Standardized interfaces

Application range
- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features
- 3and 4-position version
- Screw connection design
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)
RoHS

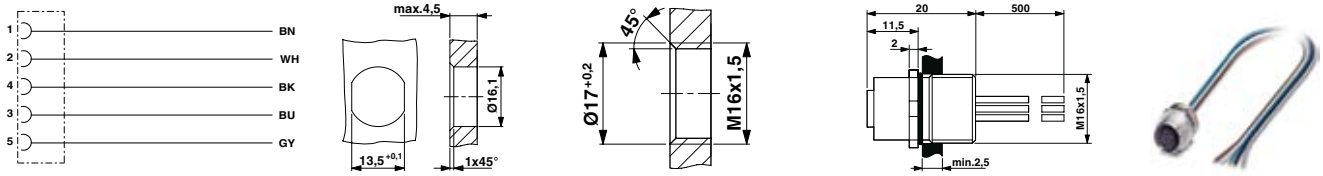
Suitable cables
- Cable for sensor / actuator components

Technical data
Degree of protection
IP 68
Ambient temperature (operation)
Plug / socket
-25°C to 90°C
Contact material
CuZn
Contact surface material
Au
Coding
A - Standard

Part number	Type	Nominal voltage U_N in V	Nominal current I_N in A	Conductor cross section stranded min. in mm²	Conductor cross section stranded max. in mm²	Number of poles	Cable Diameter min in mm	Cable Diameter max in mm	PU
Straight connector with screw connection									
22260120	AB-C3-M8MS	60	4	0.14	0.5	3	3.5	5	1
22260121	AB-C4-M8MS	30	4	0.14	0.5	4	3.5	5	1
22260122	AB-C3-M8MS-P	60	4	0.14	0.38	3	3	5	1
22260123	AB-C4-M8MS-P	30	4	0.14	0.38	4	3	5	1
Straight socket with screw connection									
22260119	AB-C4-M8FS-P	30	4	0.14	0.38	4	3	5	1
22260124	AB-C3-M8FS-P	60	4	0.14	0.38	3	3	5	1
22260125	AB-C3-M8FS-M	60	4	0.14	0.5	3	3.5	5	1
22260126	AB-C4-M8FS-M	30	4	0.14	0.5	4	3.5	5	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A M12 flush-type connectors with M16 fastening thread



S/A M12 flush-type connectors with M16 fastening thread

Benefits

- Flexible connection solutions for individual device concepts
- Simple installation in devices
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- M12 panel feed-through with punched on single litz wires
- Panel feed-through with M16 fastening thread
- Front mounting
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Design

- PUR halogen-free single litz wires
- 0,34 mm²

Technical data

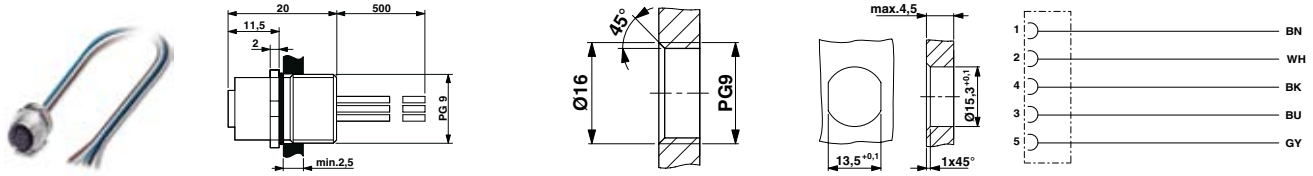
IP

Degree of protection
IP 67
Ambient temperature (operation)
Plug / socket
-25 °C to 85 °C
Contact material
CuZn
Contact surface material
Au
Coding
A - Standard

Part number	Type	Nominal voltage U_N in V	Nominal current I_N in A	Conductor cross section in mm²	Number of poles	PU
M12 flush-type connector socket						
22260107	AB-C4-M12FS-M16-0,5	250	4	0.34	4	1
22260105	AB-C5-M12FS-M16-0,5	60	4	0.34	5	1
M12 flush-type connector pin						
22260108	AB-C4-M12MS-M16-0,5	250	4	0.34	4	1
22260106	AB-C5-M12MS-M16-0,5	60	4	0.34	5	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A M12 flush-type connectors with PG9 fastening thread



S/A M12 flush-type connectors with PG9 fastening thread

Benefits

- Flexible connection solutions for individual device concepts
- Simple installation in devices
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- M12 panel feed-through with punched on single litz wires
- Panel feed-through with PG9 fastening thread
- Front mounting
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Design

- PUR halogen-free single litz wires
- 0,34 mm²

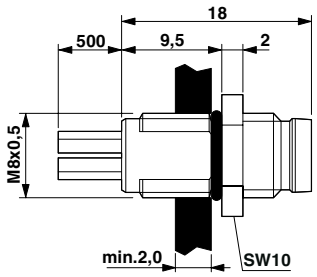
Technical data

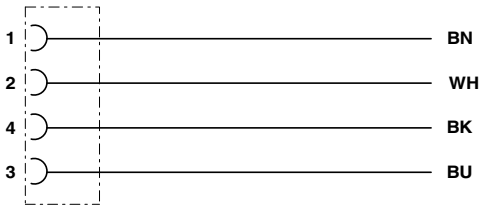
Degree of protection
IP 67
Ambient temperature (operation)
Plug / socket
-25°C to 85°C
Contact material
CuZn
Contact surface material
Au
Coding
A - Standard

Part number	Type	Nominal voltage U_N in V	Nominal current I_N in A	Conductor cross section in mm²	Number of poles	PU
M12 flush-type connector pin for rear mounting						
22260117	AB-C4-DSI-M12MS-PG9-0,5	250	4	0.34	4	1
22260115	AB-C5-DSI-M12MS-PG9-0,5	60	4	0.34	5	1
M12 flush-type connector socket for rear mounting						
22260118	AB-C4-DSI-M12FS-PG9-0,5	250	4	0.34	4	1
22260116	AB-C5-DSI-M12FS-PG9-0,5	60	4	0.34	5	1
M12 flush-type connector pin for front mounting						
22260113	AB-C4-M12MS-PG9-0,5	250	4	0.34	4	1
22260112	AB-C5-M12MS-PG9-0,5	60	4	0.34	5	1
M12 flush-type connector socket for front mounting						
22260114	AB-C4-M12FS-PG9-0,5	250	4	0.34	4	1
22260111	AB-C5-M12FS-PG9-0,5	60	4	0.34	5	1

For detailed information please see the data sheet (www.lappautomation.com)

S/A M8 flush-type connectors





S/A M8 flush-type connectors

Benefits

- Flexible connection solutions for individual device concepts
- Simple installation in devices
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- M8 panel feed-through with punched on single litz wires
- Panel feed-through with M8 fastening thread
- Front mounting
- IP65/IP67 protection
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Design

- PUR halogen-free single litz wires
- 0,25 mm²

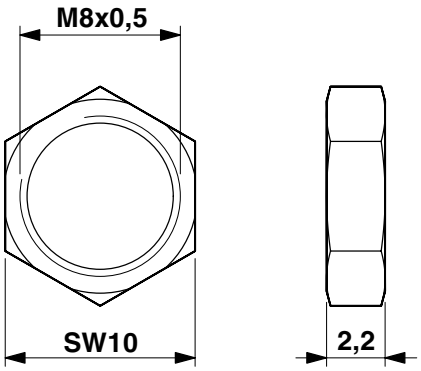
Technical data

Degree of protection
IP 67
Ambient temperature (operation)
Plug / socket
-25 °C to 85 °C
Contact material
Copper alloy
Contact surface material
Au
Coding
A - Standard

Part number	Type	Nominal voltage U_N in V	Nominal current I_N in A	Conductor cross section in mm²	Number of poles	PU
M8 flush-type connector pin						
22260100	AB-C3-M8MS-0,5	60	4	0.25	3	1
22260101	AB-C4-M8MS-0,5	30	4	0.25	4	1
M8 flush-type connector socket						
22260102	AB-C3-M8FS-0,5	60	4	0.25	3	1
22260103	AB-C4-M8FS-0,5	30	4	0.25	4	1

For detailed information please see the data sheet (www.lappautomation.com)

Fitting nut for flush-type connectors



Fitting nut for flush-type connectors

Benefits

- Fitting nut as accessory for flush-type connectors

Product features

- Material: Nickel-plated brass

Approvals (Norm references)

RoHS

Part number	Type	PU
M8 thread		
22260104	AB-C-M8-CN	1
M12 thread		
22260109	AB-C-M12-PG9-CN	1
22260110	AB-C-M12-M16-CN	1

For detailed information please see the data sheet (www.lappautomation.com)

UNITRONIC® SENSOR

Application range

- Cables for UNITRONIC® Fieldbus sensor-/actuator wiring requirements
- Data transmission cables to connect to M8, M12 connectors
- Automation technology
- Mechanical engineering
- Plant engineering

Product features

- Core colour in accordance with DIN EN 50044
- 3x 0.34 mm2
  1= brown, 2= blue, 3= black
- 4x 0.34 mm2
  1= brown, 2= white, 3= blue, 4= black
- 5x 0.25mm2 or 0.34mm2
  1= brown, 2= white, 3= blue, 4= black, 5=grey
- 8x 0.25mm2
  1= white, 2=brown, 3= green, 4= yellow, 5= grey, 6= pink, 7=blue, 8= red

Approvals (Norm references)

RoHS

Design

- UNITRONIC® SENSOR LifYY
  Conductor: Superfine bare copper strand in accordance with DIN VDE 0295 Class 6; Core insulation PCV, Outer sheath PVC vinyl
- UNITRONIC® SENSOR DESINA® LifY11Y
  Stranded bare copper conductor, superfine. In accordance with VDE 0295 Class 6, special PVC insulation, cores twisted in layers, core ident code in accordance with DESINA® (brwon, white, blue, black). Outer sheath of special polyurethane based compound; colour yellow in acc. to RAL 1021; flame retardant acc. to IEC 60332-1-2. Operating voltage= 48 V, Peak working voltage= 300 V.
- UNITRONIC® SENSOR FD UL/CSA - Lif9Y11Y
  Approved AWM UL-style 20549, 80°C / 300 V. Conductor: Cu wire, bare, super-fine strands in accordance with DIN VDE 0295 class 6. Core insulation: modified poly-propylene (PP), outer sheath: halogen-free polyurethane (PUR), matt, adhesion free
- UNITRONIC® SENSOR COMBI LifY11Y
  3x0,75+16x0,34
  Conductor: Bare copper strand, single wire diameter: 0.10 mm for 0.34 mm2, 0.16 mm for 0.75 mm2, core insulation: PVC, external sheath: co-extruded double sheath: inner PVC, outer special PUR

Part number	Article designation	Dimension in mm²	Outer diameter in mm approx.	Core / sheath material	Colour	Copper index kg/km
UNITRONIC® SENSOR						
7038859	S-LifYY **	3x0,34	4.8	PVC/PVC	black	9.8
7038860	S-LifYY **	4x0,34	5.2	PVC/PVC	black	13.1
0040434	DESINA **	4x0,34	5.2	PVC/PVC	yellow RAL 1021	13.5
7038861	S-LifY11Y **	4x0,34	5.2	PVC/PUR	black	13.1
7038862	S-LifY11Y **	5x0,25	4.8	PVC/PUR	black	12.0
UNITRONIC® SENSOR FD UL/CSA						
7038864	Li9Y11Y **	3x0,34	4.6	PP/PUR	black	9.8
7038865	Li9Y11Y **	4x0,34	4.6	PP/PUR	black	13.0
7038866	Li9Y11Y **	5x0,34	5.0	PP/PUR	black	16.0
7038867	Li9Y11Y **	5x0,25	4.7	PP/PUR	black	12.0
7038868	Li9Y11Y **	8x0,25	5.8	PP/PUR	black	19.0

Copper price basis: EUR 150 / 100 kg
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Cables are printed
Further types on request

Accessories

- S/A M12 connectors that can be assembled see page 57
- S/A M8 connectors that can be assembled see page 58
- STAR STRIP stripping tool
- SMARTSTRIP stripping tool

New

UNITRONIC® BUS FD ASI

Benefits

- For highly flexible application (power chains, frequently moved machine parts)
- Increased oil resistance

Application range

- Communication at Sensor / Actuator level
- UNITRONIC® Fieldbus sensor-/actuator wiring requirements

Product features

- Data and energy are transmitted both via an unscreened, geometrically coded two-core flat cable (protection against polarity reversal).
- The conductor is contacted by “piercing technology” within the ASI-modules.
- Connection of sensors to the ASI module (coupling module) is carried out using round cables (connection cables).

Approvals (Norm references)

RoHS

- ASI is standardised Europe-wide in EN 50295 and internationally in IEC 62026-2.

Design

- Stranded copper conductor, fine, 1.5 mm²
- Core insulation: Blue and brown)
- Outer sheath of polyurethane (PUR) compound
- Colour: yellow (RAL 1023) or black (RAL 9005)

Technical data

Peak working voltage
(not for power applications) 300 V
Conductor resistance
(loop): max. 27.4 Ohm/km
Minimum bending radius
Fixed installation: 12 mm
Flexing without fixing: 24 mm
Flexing with fixing: 60mm (15xD)
Test voltage
Core/core: 2000 V
Range of temperature
Fixed installation: -40°C up to +90°C
Flexing: -30°C up to +80°C

Part number	Article designation	Sheath material	Sheath colour	Application	Number of cores and mm² per conductor	Copper index kg/km	Weight kg/m
For highly flexible application (power chains, frequently moved machine parts)							
2170306	UNITRONIC® BUS FD ASI	PUR	yellow	Data and energy transmission	2 x 1,5	29.0	57.0
2170307	UNITRONIC® BUS FD ASI	PUR	black	Transmission auxiliary 30V DC	2 x 1,5	29.0	57.0

Copper price basis: EUR 150 / 100 kg
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
LAPPKABEL is a member of PROFIBUS user organisation (PNO)

Accessories

- SKINTOP® DIX-M AUTOMATION see page 90
- Universal strip stripping and cutting tool
- AS-I clip clamp
- AS-I STRIP special stripping tool
- AS-I STRIP special
- SKINTOP® DIX ASI

New

UNITRONIC® BUS FD FRNC L2/FIP FC UL/CSA

Benefits

- Fast Connect (FC) cable design
- Halogen-free and highly flame retardant
- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP
- Drag chain suitable

Application range

- Intendetd for highly flexible use in power chains or permanently moving machines and linear robots
- This cable provides special advantages for the use in sensitive areas, where flame propagation must be avoided and the presence of toxic fumes would cause personal injuries and damag of property.

Product features

- Cable is UL/CSA approved (CMG)
- Halogen-free
- Flame retardant in accordance with IEC 60332-3
- Oil resistant
- The stated bit rates allow the following cable lengths (maximum) according of PROFIBUS User Organisation of one bus segment (Type A cable, PROFIBIS-DP):
  93.75 kbit/s = 1200 m
  187.5 kbit/s = 1000 m
  500 kbit/s = 400 m
  1.5 Mbit/s = 200 m
  12.0 Mbit/s = 100 m

Approvals (Norm references)

Design

- Fine strands of bare copper wires
- PE core insulation
- Inner sheath, screening foil and tinned copper braiding
- Outer sheath made of halogen-free PUR compound
- Colour: violet (RAL 4001)

Technical data

Approvals
UL/CSA (CMG)

Mutual capacitance
nom. 28 nF/km

Peak working voltage
Max. 100 V (not for power applications)

Conductor resistance
(loop): max. 110 Ohm/km

Minimum bending radius
Fixed installation: 10 x cable diameter
Flexing: 15 x outer diameter

Test voltage
1500 V core/core

Range of temperature
Flexing: -5°C up to +70°C
Static:
-30°C up to +80°C

Characteristic impedance
(3 - 20 MHz): 150 +/- 15 Ohm

Part number	Number of pairs and conductor diameter in mm	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
2170854	1x2x0,64	8.0	26.0	75.0

Copper price basis: EUR 150 / 100 kg
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
LAPPKABEL is a member of the INTERBUS CLUB user organization

EPIC® Data PROFIBUS Connectors 35° Screw Terminals

EPIC® Data PROFIBUS Connectors 35° Screw Terminals

Info

- **Interoperable to market standard**

Benefits

- Standardized interfaces
- Cost saving because of quick installation
- Easy to connect
- Small housing

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Screwing connection
- Switchable terminating resistor integrated
- Switch can also be operated when the connector is plugged and setting is clearly visible
- When being used as a through connector (two cable connections, node) the switch must be in the “OFF” position, if being as a terminal resistor (one cable connection) the switch must be in the “ON” position
- If the switch in in the “ON” position the outgoing bus cable is disconnected

Approvals (Norm references)

- Sub-D connection / pin assignment in accordance with PROFIBUS

Design

- Sub-D female socket, 9-pole
- Metalized housing
- Cable outlet 35°
- Optional with Servicing-/ programming interface (PG): Sub-D plug, 9-pole
- For cable diameter: 5.0 ... 8.0 mm

Suitable cables

- Cables for PROFIBUS-DP/FMS/FIP 65
- Cables for PROFIBUS-PA, characteristic impedance 100 Ω

Technical data

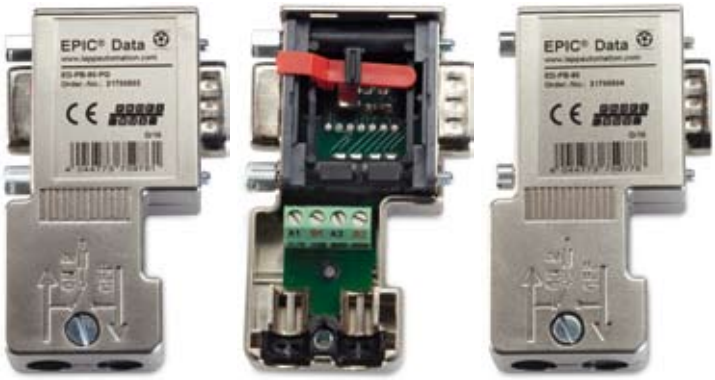
Dimensions
54 mm x 40 mm x 17 mm (LxWxH)
Connection type
Screwing
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
35° angulate
Terminating resistor
Resistor combination integrated, connectable with slide switch
Transmission rate
max. 12 MBit/s
Interfaces
PROFIBUS-station:
SUB-D socket, 9-pole
PROFIBUS-cable:
4 terminals for wires up to 1,0 mm²
Current consumption
max. 12.5 mA
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+80°C
Relative humidity:
max. 75% at +25°C
Voltage consumption
4.75 .. 5.25 V DC
(device is energized))

Part number	Article designation	Outgoing cable	PG	Pieces / PU
EPIC® Data PROFIBUS Connectors				
21700507	ED-PB-35	35°	No	1
21700506	ED-PB-35-PG	35°	yes	1

EPIC® Data PROFIBUS Connectors 90° Screw Terminals

Info

- **Interoperable to market standard**



EPIC® Data PROFIBUS Connectors 90° Screw Terminals

Benefits

- Standardized interfaces
- Cost saving because of quick installation
- Easy to connect
- Small housing

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Screwing connection
- Switchable terminating resistor integrated
- Switch can also be operated when the connector is plugged and setting is clearly visible
- When being used as a through connector (two cable connections, node) the switch must be in the “OFF” position, if being as a terminal resistor (one cable connection) the switch must be in the “ON” position
- If the switch in in the “ON” position the outgoing bus cable is disconnected

Approvals (Norm references)

- Sub-D connection / pin assignment in accordance with PROFIBUS

Design

- Sub-D female socket, 9-pole
- Metalized housing
- Cable outlet 90°
- Optional with Servicing-/ programming interface (PG): Sub-D plug, 9-pole
- For cable diameter: 5.0 ... 8.0 mm

Suitable cables

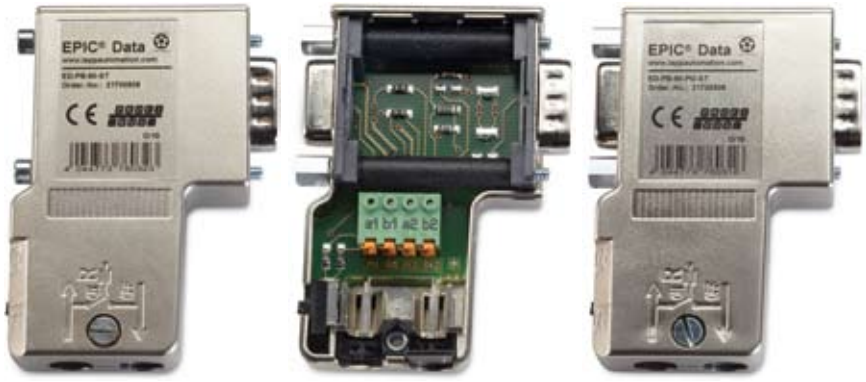
- Cables for PROFIBUS-DP/FMS/FIP
- Cables for PROFIBUS-PA, characteristic impedance 100 Ω

Technical data

Dimensions
64 mm x 40 mm x 17 mm (LxWxH)
Connection type
Screwing
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
90°
Terminating resistor
Resistor combination integrated, connectable with slide switch
Transmission rate
max. 12 MBit/s
Interfaces
PROFIBUS-station:
SUB-D socket, 9-pole
PROFIBUS-cable:
4 terminals for wires up to 1,0 mm²
Current consumption
max. 12.5 mA
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+80°C
Relative humidity:
max. 75% at +25°C
Voltage consumption
4.75 .. 5.25 V DC
(device is energized))

Part number	Article designation	Outgoing cable	PG	Pieces / PU
EPIC® Data PROFIBUS Connectors				
27100504	ED-PB-90	90°	no	1
21700503	ED-PB-90-PG	90°	yes	1

EPIC® Data PROFIBUS Connectors 90° spring type



EPIC® Data PROFIBUS Connectors 90° spring type

Info

- **Interoperable to market standard**

Benefits

- Standardized interfaces
- Cost saving because of quick installation
- Easy to connect

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Spring type terminal
- Switchable terminating resistor integrated
- Switch can also be operated when the connector is plugged and setting is clearly visible
- When being used as a through connector (two cable connections, node) the switch must be in the “OFF” position, if being as a terminal resistor (one cable connection) the switch must be in the “ON” position
- If the switch in in the “ON” position the outgoing bus cable is disconnected

Approvals (Norm references)

- Sub-D connection / pin assignment in accordance with PROFIBUS

Design

- Sub-D female socket, 9-pole
- Metalized housing
- Cable outlet 90°
- Optional with Servicing / programming interface (PG): Sub-D plug, 9-pole
- For cable diameter: 5.0 ... 8.0 mm

Suitable cables

- Cables for PROFIBUS-DP/FMS/FIP 65
- Cables for PROFIBUS-PA, characteristic impedance 100 Ω

Technical data

Dimensions
65 mm x 48 mm x 16 mm (LxWxH)
Connection type
Spring type terminal (ST)
The stripped conductors contacts automatically when inserted, for breaking the connection the orange lever must be pressed
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
90°
Terminating resistor
Resistor combination integrated, connectable with slide switch
Transmission rate
max. 12 MBit/s
Interfaces
PROFIBUS-station:
SUB-D socket, 9-pole
PROFIBUS-cable:
4 spring type terminals for wires up to 0,5 mm²
(Solid conductor)
Current consumption
max. 12.5 mA
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+80°C
Relative humidity:
max. 75% at +25°C
Voltage consumption
4.75 .. 5.25 V DC
(device is energized))

Part number	Article designation	Cable outlet	Cable types	PG	Pieces / PU
EPIC® Data PROFIBUS Connectors					
21700509	ED-PB-90-ST	90°	Solid	no	1
21700508	ED-PB-90-PG-ST	90°	Solid	yes	1

New

EPIC® Data PROFIBUS Connectors 90° fast to connect

Info

- **Interoperable to market standard**

EPIC® Data PROFIBUS Connectors 90° fast to connect

Benefits

- Qualified for FC cabels
- Standardized interfaces
- Cost saving because of quick installation
- Easy to connect

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Visual connection control
- Switchable terminating resistor integrated
- Switch can also be operated when the connector is plugged and setting is clearly visible
- When being used as a through connector (two cable connections, node) the switch must be in the “OFF” position, if being as a terminal resistor (one cable connection) the switch must be in the “ON” position
- If the switch in in the “ON” position the outgoing bus cable is disconnected

Approvals (Norm references)

- Sub-D connection / pin assignment in accordance with PROFIBUS

Design

- Sub-D female socket, 9-pole
- Metalized housing
- Cable outlet 90°
- Optional with Servicing / programming interface (PG): Sub-D plug, 9-pole
- For cable diameter: 5.0 ... 8.0 mm

Suitable cables

- Cables for PROFIBUS-DP/FMS/FIP
- Cables for PROFIBUS-PA, characteristic impedance 100 Ω

Suitable tools

- FC Strip stripping tool

Technical data

Dimensions
72 mm x 40 mm x 17 mm (LxWxH)
Connection type
Fast to connect
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
90°
Terminating resistor
Resistor combination integrated, connectable with slide switch
Transmission rate
max. 12 MBit/s
Interfaces
PROFIBUS-station:
SUB-D socket, 9-pole
PROFIBUS-cable:
FC standard cable, Ø 0.64 mm (solid or flexible)
flexible: 7-19 litz wires
Current consumption
max. 12.5 mA
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+80°C
Relative humidity:
max. 75% at +25°C
Voltage consumption
4.75 .. 5.25 V DC
(device is energized))

Part number	Article designation	Cable outlet	Cable types	PG	Pieces / PU
EPIC® Data PROFIBUS Connectors					
21700502	ED-PB-90-FC	90°	Solid	no	1
21700528	ED-PB-90-FC-FLEX	90°	Flexible	no	1
21700501	ED-PB-90-PG-FC	90°	Solid	yes	1
21700527	ED-PB-90-PG-FC-FLEX	90°	Flexible	yes	1

New

EPIC® Data PROFIBUS Connectors 90° LED Screw Terminals

EPIC® Data PROFIBUS Connectors 90° LED Screw Terminals

Info

- **Interoperable to market standard**

Benefits

- 3status LEDs indicate: bus operation, station transmitting, terminating resistor
- Simplify status investigation
- Standardized interfaces
- Cost saving because of quick installation
- Easy to connect

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Screwing connection
- Switchable terminating resistor integrated
- Switch can also be operated when the connector is plugged and setting is clearly visible
- When being used as a through connector (two cable connections, node) the switch must be in the “OFF” position, if being as a terminal resistor (one cable connection) the switch must be in the “ON” position
- If the switch in in the “ON” position the outgoing bus cable is disconnected

Approvals (Norm references)

- Sub-D connection / pin assignment in accordance with PROFIBUS

Design

- Sub-D female socket, 9-pole
- Metalized housing
- Cable outlet 90°
- Optional with Servicing / programming interface (PG): Sub-D plug, 9-pole
- For cable diameter: 5.0 ... 8.0 mm

Suitable cables

- Cables for PROFIBUS-DP/FMS/FIP
- Cables for PROFIBUS-PA, characteristic impedance 100 Ω

Technical data

Dimensions
64 mm x 40 mm x 17 mm (LxWxH)
Connection type
Screwing
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
90°
Terminating resistor
Resistor combination integrated, connectable with slide switch
Transmission rate
max. 12 MBit/s
Interfaces
PROFIBUS-station:
SUB-D socket, 9-pole
PROFIBUS-cable:
4 terminals for wires up to 1,0 mm²
Current consumption
max. 35 mA
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+80°C
Relative humidity:
max. 75% at +25°C
Voltage consumption
4.75 .. 5.25 V DC
(device is energized))

Part number	Article designation	Cable outlet	PG	Pieces / PU
EPIC® Data PROFIBUS Connectors				
21700530	ED-PB-90-LED	90°	no	1
21700529	ED-PB-90-PG-LED	90°	yes	1

New

EPIC® Data PROFIBUS Connector 90° LED fast to connect

Info

- **Interoperable to market standard**

EPIC® Data PROFIBUS Connector 90° LED fast to connect

Benefits

- 3 status LEDs indicate: bus operation, station transmitting, terminating resistor
- Simplify status investigation
- Visual connection control
- Cost saving because of quick installation
- Easy to connect

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Fast to connect
- Switchable terminating resistor integrated
- Switch can also be operated when the connector is plugged and setting is clearly visible
- When being used as a through connector (two cable connections, node) the switch must be in the “OFF” position, if being as a terminal resistor (one cable connection) the switch must be in the “ON” position
- If the switch in in the “ON” position the outgoing bus cable is disconnected

Approvals (Norm references)

- Sub-D connection / pin assignment in accordance with PROFIBUS

Design

- Sub-D female socket, 9-pole
- Metalized housing
- Cable outlet 90°
- Optional with Servicing / programming interface (PG): Sub-D plug, 9-pole
- For cable diameter: 5.0 ... 8.0 mm

Suitable cables

- Cables for PROFIBUS-DP/FMS/FIP 65
- Cables for PROFIBUS-PA, characteristic impedance 100 Ω

Suitable tools

- FC Strip stripping tool

Technical data

Dimensions
64 mm x 40 mm x 17 mm (LxWxH)
Connection type
Fast to connect
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
90°
Terminating resistor
Resistor combination integrated, connectable with slide switch
Transmission rate
max. 12 MBit/s
Interfaces
PROFIBUS-station:
SUB-D socket, 9-pole
PROFIBUS-cable:
FC standard cable, 0.64 mm², solid
Current consumption
max. 35 mA
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+80°C
Relative humidity:
max. 75% at +25°C
Voltage consumption
4.75 .. 5.25 V DC
(device is energized))

Part number	Article designation	Cable outlet	Cable types	PG	Pieces / PU
EPIC® Data PROFIBUS Connectors					
21700547	ED-PB-90-LED-FC	90°	Solid	no	1
21700546	ED-PB-90-PG-LED-FC	90°	Solid	yes	1

New

EPIC® Data PROFIBUS Connectors ATEX Screw Terminals

Benefits

- For usage in explosion hazardous areas of zone 2 (explosiv gasatmosphere appears seldom and for very short time)
- Standardized interfaces
- Cost saving because of quick installation
- Easy to connect

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Screwing connection
- Switchable terminating resistor integrated
- Switch can also be operated when the connector is plugged and setting is clearly visible
- When being used as a through connector (two cable connections, node) the switch must be in the “OFF” position, if being as a terminal resistor (one cable connection) the switch must be in the “ON” position
- If the switch in in the “ON” position the outgoing bus cable is disconnected

Approvals (Norm references)

- Sub-D connection / pin assignment in accordance with PROFIBUS
- Atex-accreditation (EN 50021:1999)

Design

- Sub-D female socket, 9-pole
- Metalized housing
- Cable outlet 90°
- Optional with Servicing / programming interface (PG): Sub-D plug, 9-pole
- For cable diameter: 5.0 ... 8.0 mm

Suitable cables

- Cables for PROFIBUS-PA, characteristic impedance 100 Ω

Info

- **Interoperable to market standard**

Technical data

Dimensions
64 mm x 40 mm x 17 mm (LxWxH)
Connection type
Screwing
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
90°
Terminating resistor
Resistor combination integrated, connectable with slide switch
Transmission rate
max. 12 MBit/s
Interfaces
PROFIBUS-station:
SUB-D socket, 9-pole
PROFIBUS-cable:
4 terminals for wires up to 1,0 mm²
Current consumption
max. 12.5 mA
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+80°C
Relative humidity:
max. 75% at +25°C
Voltage consumption
4.75 .. 5.25 V DC
(device is energized))

Part number	Article designation	Cable outlet	PG	Pieces / PU
EPIC® Data PROFIBUS Connectors				
21700543	ED-PB-90-ATEX	90°	no	1
21700542	ED-PB-90-PG-ATEX	90°	yes	1

New

EPIC® Data PROFIBUS Connectors REPEATER

Info

- **Interoperable to market standard**

EPIC® Data PROFIBUS Connectors REPEATER

Benefits

- Areal alternative to conventional PROFIBUS repeaters
- Increases the number of nodes
- Cost saving because of quick installation
- Easy to connect
- No additional space needed in the cabinet very flexible in use

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Screwing connection
- Can be used as a bus extension or spur line
- 5V supply direct from PROFIBUS, with that it is usable on every PROFIBUS device
- Repeater covers transmission rates from 9.6 KBit/s to 12 MBit/s
- Transmission Rate—> max. segment length:

9.6 KBit/s	1000 m
187.5 KBit/s	1000 m
500 KBit/s	400 m
1.5 MBit/s	200 m
3 MBit/s	100 m
12 MBit/s	100 m

Approvals (Norm references)

- Sub-D connection / pin assignment in accordance with PROFIBUS

Design

- Sub-D female socket, 9-pole
- Metalized housing
- 24 V supply is not necessary
- Status LEDs
- For cable diameter: 5.0 ... 8.0 mm

Suitable cables

- Cables for PROFIBUS-DP/FMS/FIP 65
- Cables for PROFIBUS-PA, characteristic impedance 100 Ω

Technical data

Dimensions
64 mm x 40 mm x 17 mm (LxWxH)
Connection type
Screwing
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
90°
Transmission rate
9.6 Kbit/s to 12 MBit/s autodetection
Interfaces
Connection:
SUB-D socket, 9-pole
PROFIBUS-cable:
4 terminals for wires up to 1,0 mm²
Protocol:
PROFIBUS DP per EN 50170
Current consumption
typ. 100 mA
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+75°C
Voltage consumption
+5 V DC

Part number	Article designation	Cable outlet	PG	Pieces / PU
EPIC® Data PROFIBUS Connectors				
21700541	ED-PB-90-RP-PG	90°	yes	1

Detailed manual see www.lappautomation.com

EPIC® Data PROFIBUS Connectors 180° Screw Terminals

EPIC® Data PROFIBUS Connectors 180° Screw Terminals

Info

- **Interoperable to market standard**

Benefits

- Standardized interfaces
- Cost saving because of quick installation
- Easy to connect

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Screwing connection
- Switchable terminating resistor integrated
- Switch can also be operated when the connector is plugged and setting is clearly visible
- When being used as a through connector (two cable connections, node) the switch must be in the “OFF” position, if being as a terminal resistor (one cable connection) the switch must be in the “ON” position
- If the switch in in the “ON” position the outgoing bus cable is disconnected

Approvals (Norm references)

- Sub-D connection / pin assignment in accordance with PROFIBUS

Design

- Sub-D female socket, 9-pole
- Metalized housing
- Cable outlet 180° (AX)
- No losable parts
- For cable diameter: 5.0 ... 8.0 mm

Suitable cables

- Cables for PROFIBUS-DP/FMS/FIP 65
- Cables for PROFIBUS-PA, characteristic impedance 100 Ω

Technical data

Dimensions
68 mm x 39.5 mm x 17 mm (LxWxH)
Connection type
Screwing
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
180°
Terminating resistor
Resistor combination integrated, connectable with slide switch
Transmission rate
max. 12 MBit/s
Interfaces
PROFIBUS-station:
SUB-D socket, 9-pole
PROFIBUS-cable:
4 terminals for wires up to 1,0 mm²
Current consumption
max. 12.5 mA
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+80°C
Relative humidity:
max. 75% at +25°C
Voltage consumption
4.75 .. 5.25 V DC
(device is energized))

Part number	Article designation	Cable outlet	PG	Pieces / PU
EPIC® Data PROFIBUS Connectors				
21700505	ED-PB-AX	180°	no	1

New

EPIC® Data PROFIBUS Connectors 180° fast to connect

Info

- **Interoperable to market standard**

EPIC® Data PROFIBUS Connectors 180° fast to connect

Benefits

- Qualified for FC cabels
- Standardized interfaces
- Cost saving because of quick installation
- Easy to connect

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Visual connection control
- Switchable terminating resistor integrated
- Switch can also be operated when the connector is plugged and setting is clearly visible
- When being used as a through connector (two cable connections, node) the switch must be in the “OFF” position, if being as a terminal resistor (one cable connection) the switch must be in the “ON” position
- If the switch in in the “ON” position the outgoing bus cable is disconnected

Approvals (Norm references)

- Sub-D connection / pin assignment in accordance with PROFIBUS

Design

- Sub-D female socket, 9-pole
- Metalized housing
- Cable outlet 180° (AX)
- For cable diameter: 5.0 ... 8.0 mm

Suitable cables

- Cables for PROFIBUS-DP/FMS/FIP 65
- Stationary application

Suitable tools

- FC Strip stripping tool

Technical data

Dimensions
70 mm x 35 mm x 17 mm (LxWxH)
Connection type
Fast to connect
Weight
approx. 50 g
Degree of protection
IP20
Outgoing cable
180°
Terminating resistor
Resistor combination integrated, connectable with slide switch
Transmission rate
max. 12 MBit/s
Interfaces
PROFIBUS-station:
SUB-D socket, 9-pole
PROFIBUS-cable:
FC standard cable, Ø 0.64 mm (solid or flexible)
flexible: 7-19 litz wires
Current consumption
max. 12.5 mA
Permissble ambient conditions
Surrounding air temperature: 0°C...+60°C
Transport and storage temperature: -25°C...+80°C
Relative humidity: max. 75% at +25°C
Voltage consumption
4.75 .. 5.25 V DC (device is energized))

Part number	Article designation	Cable outlet	Cable types	PG	Pieces / PU
EPIC® Data PROFIBUS Connectors					
21700544	ED-PB-AX-FC	180° axial	Solid	no	1
21700545	ED-PB-AX-FC-FLEX	180° axial	Flexible	no	1

New

EPIC® Data CAN-Bus Connectors 90°

EPIC® Data CAN-Bus Connectors 90°

Info

- **Interoperable to market standard**

Benefits

- With additional insertion of 24 v DC to supply external USV (GND=Pin 6, CAN V+=Pin 9)
- Cost saving because of quick installation
- Easy to connect
- Standardized interfaces
- Small housing

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Screwing connection
- Switchable terminating resistor integrated
- Because of integrated connectable terminal resistors the CAN-Bus can be terminated cor connect through
- When being used as a through connector the switch must be in the “OFF” position, if being as a terminal resistor, the switch must be in the “ON” position
- No losable parts

Design

- Sub-D female socket, 9-pole
- Metalized housing
- Optional with Servicing / programming interface (PG): Sub-D plug, 9-pole
- For cable diameter: 5.0 ... 8.0 mm

Suitable cables

- Cables for CAN UL/CSA-approved

Technical data

Dimensions
65 mm x 48 mm x 16 mm (LxWxH)
Connection type
Screwing
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
90°
Terminating resistor
120 Ω integrated
and connectable with slide switch
Transmission rate
max. 1 MBit/s
Interfaces
CAN-Bus station:
SUB-D socket, 9-pole
CAN-Bus cable:
6 terminals for wires up to 1,0 mm²
Pin Assignment Sub-D:
CAN Low = Pin 2
CAN High = Pin 7
CAN Gnd = Pin 3
GND = Pin 6
CAN V+ = Pin 9
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+75°C
Relative humidity:
max. 75% at +25°C

Part number	Article designation	Outgoing cable	PG	Pieces / PU
EPIC® Data CAN-Bus Connectors				
21700537	ED-CAN-90	90°	no	1
21700536	ED-CAN-90-PG	90°	yes	1

New

EPIC® Data CAN-Bus Connectors 180°

Info

- **Interoperable to market standard**

EPIC® Data CAN-Bus Connectors 180°

Benefits

- Standardized interfaces
- Cost saving because of quick installation
- Easy to connect

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Screwing connection
- Switchable terminating resistor integrated
- Because of integrated connectable terminal resistors the CAN-Bus can be terminated cor connect through
- When being used as a through connector the switch must be in the “OFF” position, if being as a terminal resistor, the switch must be in the “ON” position
- No losable parts

Design

- Sub-D female socket, 9-pole
- Metalized housing
- No losable parts
- For cable diameter: 5.0 ... 8.0 mm

Suitable cables

- Cables for CAN UL/CSA-approved

Technical data

Dimensions
67,5 mm x 35 mm x 17 mm (LxWxH)
Connection type
Screwing
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
180°
Terminating resistor
120 Ω integrated
and connectable with slide switch
Transmission rate
max. 1 MBit/s
Interfaces
CAN-Bus station:
SUB-D socket, 9-pole
CAN-Bus cable:
6 terminals for wires up to 1,0 mm²
Pin Assignment Sub-D:
CAN Low = Pin 2
CAN High = Pin 7
CAN Gnd = Pin 3
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+75°C
Relative humidity:
max. 75% at +25°C

Part number	Article designation	Cable outlet	PG
EPIC® Data CAN-BUS Connectors			
21700538	ED-CAN-AX	180° axial	no

ETHERLINE® PROFIBUS DP Ethernet-Gateways

Benefits

- Gateway for connecting Ethernet-based architecture to PROFIBUS fieldbus systems.
- Comfortable configuration and administration via graphical user interface over Web Browser (HTTP protocol) or via serial port (RS232).
- Access up to three separate bus segment as a master or slave.
- Cost reduction attributable to fast system intergration and commissioning via user-friendly web interface.
- PROFIBUS® OPC Server gives you quick and convenient access to PROFIBUS DP and PA devices from any manufacturer. The configurator helps you put DP-V0 and DP-V1 networks into operation.

Application range

- Industrial use
- Different kind of communicatiion via BUS systems and/or Ethernet based systems
- UNITRONIC® Fieldbus sensor-/actuator wiring requirements

Product features

- PROFIBUS® DP can be configured as master or slave
- Supported protocols: DP-V1 Master, FMS, FDL, MPI
- Transfer rates: 9.6; 19.2; 45.45; 93.75; 187.5; 500; 1500; 3000; 6000; 12000 kBit/s
- Connector: 9-pin D-sub

Approvals (Norm references)

- Mechanical stability
  - IEC 60068-2-27 Shock
  - IEC 60068-2-6 Vibration
- Interference proof
  - EN 61000-4-2 Disarge of static electricity
  - EN 61000-4-3 Electromagnetic fields
  - EN 61000-4-4 Fast transients (bursts)
  - EN 61000-4-5 Surge voltage sysmetrical
  - EN 61000-4-6 Cabel based RF faults

Technical data

Dimensions W x H x D in mm
A-GW-P1E: 47x131x111
A-GW-P3E: 110x131x111

Weight in g
A-GW-P1E: 400 g
A-GW-P3E: 1250 g

LED
Power, Connection, Data, Faults

Air humidity
Rel.: max. 90% at +25°C (non-condensing)

Installation
35mm DIN top-hat rail (EN50022)

Rated voltage
18 up to 30V DC / 1A

Degree of protection
IP 20 (EN 60529)

Range of temperature
Operating temperature: 0°C up to +55°C
Storage temperature: -20°C to +70°C

Part number	Article designation	Port type	PU
PROFIBUS® 1 channel			
21700002	ETHERLINE® A-GW-P1E	1 x 10/100BaseTX, 1 x PROFIBUS	1
PROFIBUS 3 channel			
21700012	ETHERLINE® A-GW-P3E	1 x 10/100BaseTX, 3 x PROFIBUS	1

New

EPIC® SOLAR M pre-assembled

RoHS

Info

- New versions with new solar cable ÖLFLEX® SOLAR XLR ST

New

EPIC® SOLAR F pre-assembled

RoHS

Info

- New versions with new solar cable ÖLFLEX® SOLAR XLR ST

Benefits

- The LAPP GROUP uses its competence here as a cable and connector manufacturer and moulds OLFLEX® SOLAR cables with the EPIC® SOLAR connectors. This distinguishes EPIC® SOLAR from other assembled systems. The injection moulding technology is extraordinarily robust, achieves maximum tensile strength and is unbeatably tight. The injection moulding is made in an industrial process and continuously tested, resulting in products of a consistently high quality.

Application range

- Pre-assembled injection moulded solar cables for weather proof cabling of Photovoltaic systems

Product features

- These one-side pre-assembled cables with EPIC® SOLAR connectors are available as a male (M) and female (F) version in combination with OLFLEX® SOLAR XLR ST in different cross sections.
- Other lengths and cable end versions on request

Suitable cables

- ÖLFLEX® SOLAR XLR ST siehe Seite 19

Technical data

Rated voltage in V
1000 V AC/DC
Rated impulse Voltage
8 kV
Rated current in A
30 A
Pollution degree
3
Contact resistance
< 2 mΩ
Degree of protection
IP68 (10h / 1m)
Protection class
II
Range of temperature
-40 °C ... +105 °C

Part number	Type	Cross-section in mm²	Length in m	Pieces / PU
EPIC® SOLAR male with cable OLFLEX® Solar XLR ST				
44428052	EPIC® SOLAR M XLR ST 2,5 mm² 1m	2.5	1.0	100
44428053	EPIC® SOLAR M XLR ST 4,0 mm² 1m	4.0	1.0	100
44428054	EPIC® SOLAR M XLR ST 6,0 mm² 1m	6.0	1.0	100
EPIC® SOLAR female with cable ÖLFLEX® Solar XLR ST				
44428049	EPIC® SOLAR F XLR ST 2,5 mm² 1m	2.5	1.0	100
44428050	EPIC® SOLAR F XLR ST 4,0 mm² 1m	4.0	1.0	100
44428051	EPIC® SOLAR F XLR ST 6,0 mm² 1m	6.0	1.0	100

Copper price basis: EUR 150 / 100 kg
Other legths and cable end versions on request.

Comparable products

- EPIC® SOLAR FMM Y-Splitter see page 80
- EPIC® SOLAR MFF Y-Splitter see page 80
- The complete range of EPIC® SOLAR products are shown in the current Main Catalogue and in the online catalogue at www.lappkabel.de

New

EPIC® SOLAR FMM Y-Splitter

RoHS

Info

- New versions with new solar cable ÖLFLEX® SOLAR XLR ST

New

EPIC® SOLAR MFF Y-Splitter

RoHS

Info

- New versions with new solar cable ÖLFLEX® SOLAR XLR ST

Benefits

- Y-splitters makes possible the parallel connection of solar modules.The EPIC® SOLAR Splitter is installed behind solar panels or behind facades. Maximum reliability achieved through industrial injection overmolding of the Y-Splitter with OLFLEX® SOLAR cables.

Application range

- Y-splitters for fast and simple parallel cabeling

Product features

- Rugged, UV- resistant and weatherproof
- TÜV Rheinland: in preparation
- UL: in preparation
- 100% tested cable sets with lowest transfer resistance for maximum power transmission

Suitable cables

- ÖLFLEX® SOLAR XLR ST siehe Seite 19

Technical data

Rated voltage in V
1000 V AC/DC
Rated impulse Voltage
8 kV
Rated current in A
30 A
Pollution degree
3
IP **Degree of protection**
IP68 (10h / 1m)
Protection class
II
Range of temperature
-40 °C ... +105 °C

Part number	Type	Cross-section in mm²	Length in m	Pieces / PU
EPIC® SOLAR FMM Y-Splitter				
44428055	EPIC® SOLAR FMM XLR ST 4,0mm² 0,5m	4.0	0.5	10
44428056	EPIC® SOLAR FMM XLR ST 6,0mm² 0,5m	6.0	0.5	10
EPIC® SOLAR MFF Y-Splitter				
44428057	EPIC® SOLAR MFF XLR ST 4,0mm² 0,5m	4.0	0.5	10
44428058	EPIC® SOLAR MFF XLR ST 6,0mm² 0,5m	6.0	0.5	10

Copper price basis: EUR 150 / 100 kg

Comparable products

- EPIC® SOLAR M pre-assembled see page 79
- EPIC® SOLAR F pre-assembled see page 79
- The complete range of EPIC® SOLAR products are shown in the current Main Catalogue and in the online catalogue at www.lappkabel.de

New

EPIC® M23 Inserts 12 pole PCB-soldering

Info

- With solder pins for PCB-boards
- Only for housing type A1, B1, B2

New

EPIC® M23 Inserts 17 pole PCB-soldering

Info

- With solder pins for PCB-boards
- Only for housing type A1, B1, B2

Suitable housing:

- EPIC® CIRCON M23 Housings
- All inserts are fitting in all housings
- Designed for housing type B1/B2

Benefits

- Inserts with solder pins at the rear side for soldering in PCB-boards. Ideal in combination with M23 housings type B1/B2 for rear wall mounting.

Application range

- Plant engineering
- Measurement and control technology
- Apparatus construction

Technical data

Rated voltage in V
EPIC® M23 Inserts 12 pole PCB-soldering
100 V
EPIC® M23 Inserts 17 pole PCB-soldering
50 V
Rated impulse Voltage
EPIC® M23 Inserts 12 pole PCB-soldering
1.5 kV
EPIC® M23 Inserts 17 pole PCB-soldering
0,8 kV
Rated current in A
7 A
Pollution degree
3
Contact resistance
< 4 mOhm

Contacts
Brass, gold plated
Number of contacts
EPIC® M23 Inserts 12 pole PCB-soldering
12
EPIC® M23 Inserts 17 pole PCB-soldering
17
Termination methods
Solder pins Ø1,0 mm for PCB-soldering. Pin length from rear edge of housing B1/B2: 4mm
Cycle of mechanical operation
100
Range of temperature
-25 °C - +125 °C

Part number	Part	Inserts	Contacts included	Pin design	Pieces / PU
Inserts 12pole, P-Part = left hand rotation (anticlockwise)					
44420107	P-Part	+ male contacts PCB-solder	12	12	5
44420108	P-Part	+ female contacts PCB-solder	12	12	5
Inserts 12pole, E-Part = right hand rotation (clockwise)					
44420066	E-Part	+ male contacts PCB-solder	12	12	5
44420106	E-Part	+ female contacts PCB-solder	12	12	5
Inserts 17pole, P-Part = left hand rotation (anticlockwise)					
44420160	P-Part	+ male contacts PCB-solder	17	17	5
44420161	P-Part	+ female contacts PCB-solder	17	17	5
Inserts 17pole, E-Part = right hand rotation (clockwise)					
44420162	E-Part	+ male contacts PCB-solder	17	17	5
44420163	E-Part	+ female contacts PCB-solder	17	17	5

The inserts are suitable for both male and female contacts. For a complete connection you need one P-component and one E-component. P-component = left turning (anticlockwise), E-component = right turning (clockwise)

Comparable products

- The complete range of EPIC® Circular connectors are shown in the current Main Catalogue and in the online catalogue at www.lappkabel.de

New

EPIC® M23 Inserts 7 pole

Info

- New pin-design = new part numbers

Suitable housing:

- EPIC® CIRCON M23 Housings page
- All inserts are fitting in all housings

Suitable contacts:

- EPIC® M23 Contacts male
- EPIC® M23 Contacts female

Benefits

- Various kind of further processing by different packaging of the M23 inserts. Full-assembled with suitable solder contacts or unpopulated for individual assembly with crimp or solder contacts

Application range

- Plant engineering
- Measurement and control technology
- Apparatus construction

Technical data

Rated voltage in V
150 V

Rated impulse Voltage
4 kV

Rated current in A
18 A

Pollution degree
3

Contact resistance
< 4 mOhm

Contacts
Brass, gold plated

Number of contacts
7

Termination methods
Crimp termination: 0.5 - 2.5 mm²
Solder termination: max. 2,5 mm²

Cycle of mechanical operation
100

Range of temperature
-25 °C - +125 °C

Part number	Part	Inserts	Contacts included	Pin design	Pieces / PU
Inserts 7pole, P-Part = left hand rotation (anticlockwise)					
44420148	P-Part	Without contacts		7	5
44420149	P-Part	Without contacts		7	20
44420150	P-Part	+ male contacts solder	7	7	5
44420151	P-Part	+ male contacts solder	7	7	20
44420152	P-Part	+ female contacts solder	7	7	5
44420153	P-Part	+ female contacts solder	7	7	20
Inserts 7pole, E-Part = right hand rotation (clockwise)					
44420154	E-Part	Without contacts		7	5
44420155	E-Part	Without contacts		7	20
44420156	E-Part	+ male contacts solder	7	7	5
44420157	E-Part	+ male contacts solder	7	7	20
44420158	E-Part	+ female contacts solder	7	7	5
44420159	E-Part	+ female contacts solder	7	7	20

The inserts are suitable for both male and female contacts. For a complete connection you need one P-component and one E-component. P-component = left turning (anticlockwise), E-component = right turning (clockwise)

Comparable products

- The complete range of EPIC® Circular connectors are shown in the current Main Catalogue and in the online catalogue at www.lappkabel.de

New

EPIC® H-B 10 AGS-LB

RoHS

Info

- **Housing for motor termination**

Benefits

- The smallest housing with single and double locking lever. For every application the right housing

Application range

- Plant engineering
- Light & Sound technology
- Plastics industry

Product features

- Panel mount base
- Single lever
- Angled version
- Including flat gasket

Suitable inserts

- EPIC® H-BVE 3
- EPIC® H-DD 42
- EPIC® H-EE 18
- EPIC® MCR 10
- EPIC® H-BE 10 Screw termination
- EPIC® H-BE 10 Crimp termination
- EPIC® H-BE 10 Cage clamp
- Additional support for selection of inserts and housings, please refer to the Selection Table A10

Technical data

Material
Housing:
aluminium alloy powder-coated grey
Lever: steel, zinc-plated
Sealing: NBR

Degree of protection
IP 65 (latched)

Range of temperature
-40°C - +100°C, temporary up to +125°C

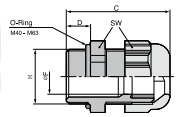
Part number	Part	Pieces / PU
H-B housing: Panel mount base (angled, single lever)		
44423026	H-B 10 AGS-LB	1

Comparable products

- The complete range of EPIC® Rectagular connector housings and inserts are shown in the current Main Catalogue and in the online catalogue at www.lappkabel.de

SKINTOP® ST-M / SKINTOP® STR-M

SKINTOP® ST-M



SKINTOP® STR-M

Info

- **Now with IP 69 K approval! Proven functionality also during hardest cleaning procedures at industrial machinery with high-pressure cleaners and hot water!**

Benefits

SKINTOP® ST-M

- Maximum reliability
- Various accessories (e. g. multiple sealing inserts)
- Permanent vibration protection
- Optimal strain relief
- Large, variable clamping ranges

SKINTOP® STR-M

- Benefits see SKINTOP® ST-M

Application range

SKINTOP® ST-M

- Everywhere where cables must be safely inserted into housings.
- Machine and apparatus construction
- Photovoltaic
- Automation technology
- Mobile off shore units, equipment and ship yards

SKINTOP® STR-M

- With reducing seal insert, to seal cables with smaller outer diameters.

Approvals (Norm references)

Design

- Metric connection thread acc. to EN 50262

Note

SKINTOP® ST-M

- For suitable accessories see SKINTOP® metric accessories
- Counter nut to be used SKINTOP® GMP-GL-M
- SKINTOP® ST M ISO types have a extralong connection thread
- Versions SKINTOP® ST M ISO with extra long connection thread, see table, have no DNV approval

SKINTOP® STR-M

- For suitable accessories see SKINTOP® metric accessories
- Counter nut to be used SKINTOP® GMP-GL-M
- SKINTOP® STR M ISO types have a extralong connection thread
- Versions SKINTOP® STR M ISO with extra long connection thread, see table, have no DNV approval

Suitable cables

SKINTOP® ST-M

- For IP 69 K applications we recommend to use the following cables:
  ÖLFLEX® ROBUST 200
  ÖLFLEX® AQUA RN8
  ÖLFLEX® AQUA BAM

Suitable tools

SKINTOP® ST-M

- SKINMATIC® QUICK Set 1
- SKINMATIC® RZ

Technical data

Caution
Installation dimensions and tightening torques see Appendix T21

Colour delivered
RAL 7001 silver-grey
RAL 7035 light grey
RAL 9005 black / UV resistant

Material
Body: Polyamide
Seal: CR

Tests
GGVS: TÜ.EGG.020-95

Degree of protection
IP 68 - 5 bar
IP 69 K

Range of temperature
Static: -40°C up to +100°C
Dynamic: -20°C up to +100°C

Part number	Part designation / size	Clamping range ØF mm	SW mm	Overall length C mm	Thread length D mm	Pieces / PU
SKINTOP® ST-M silver grey						
53111000	ST-M 12 x 1,5	3,5-7	15	30.0	8.0	100
53111010	ST-M 16 x 1,5	4,5-10	19	34.0	8.0	100
53111020	ST-M 20 x 1,5	7-13	25	37.0	9.0	100
53111030	ST-M 25 x 1,5	9-17	30	40.0	10.0	50
53111040	ST-M 32 x 1,5	11-21	36	47.0	10.0	25
53111050	ST-M 40 x 1,5	19-28	46	52.0	10.0	10
53111060	ST-M 50 x 1,5	27-35	55	62.0	12.0	5
53111070	ST-M 63 x 1,5	34-45	66	71.0	12.0	5
SKINTOP® ST-M black						
53111200	ST-M 12 x 1,5	3,5-7	15	30.0	8.0	100
53111210	ST-M 16 x 1,5	4,5-10	19	34.0	8.0	100
53111220	ST-M 20 x 1,5	7-13	25	37.0	9.0	100
53111230	ST-M 25 x 1,5	9-17	30	40.0	10.0	50
53111240	ST-M 32 x 1,5	11-21	36	47.0	10.0	25
53111250	ST-M 40 x 1,5	19-28	46	52.0	10.0	10
53111260	ST-M 50 x 1,5	27-35	55	62.0	12.0	5
53111270	ST-M 63 x 1,5	34-45	66	71.0	12.0	5
SKINTOP® ST-M light grey						
53111400	ST-M 12 x 1,5	3,5-7	15	30.0	8.0	100
53111410	ST-M 16 x 1,5	4,5-10	19	34.0	8.0	100
53111420	ST-M 20 x 1,5	7-13	25	37.0	9.0	100
53111430	ST-M 25 x 1,5	9-17	30	40.0	10.0	50
53111440	ST-M 32 x 1,5	11-21	36	47.0	10.0	25
53111450	ST-M 40 x 1,5	19-28	46	52.0	10.0	10
53111460	ST-M 50 x 1,5	27-35	55	62.0	12.0	5
53111470	ST-M 63 x 1,5	34-45	66	71.0	12.0	5
SKINTOP® ST M ISO silver-grey (with long metric connecting thread)						
53017010	ST M 16 x 1,5	3,5-8	19	40.0	12.0	100
53017030	ST M 20 x 1,5	5-12	24	45.0	13.0	100
53017040	ST M 25 x 1,5	9-14	27	47.0	13.0	50
SKINTOP® ST M ISO black (with long metric connecting thread)						
53017210	ST M 16 x 1,5	3,5-8	19	40.0	12.0	100
53017230	ST M 20 x 1,5	5-12	24	45.0	13.0	100
53017240	ST M 25 x 1,5	9-14	27	47.0	13.0	50
SKINTOP® STR-M silver grey						
53111100	STR-M 12 x 1,5	1-5	15	30.0	8.0	100
53111110	STR-M 16 x 1,5	2-7	19	34.0	8.0	100
53111120	STR-M 20 x 1,5	5-10	25	37.0	9.0	100

Part number	Part designation / size	Clamping range ØF mm	SW mm	Overall length C mm	Thread length D mm	Pieces / PU
53111130	STR-M 25 x 1,5	6-13	30	40.0	10.0	50
53111140	STR-M 32 x 1,5	7-15	36	47.0	10.0	25
53111150	STR-M 40 x 1,5	15-23	46	52.0	10.0	10
53111160	STR-M 50 x 1,5	22-29	55	62.0	12.0	5
53111170	STR-M 63 x 1,5	28-39	66	71.0	12.0	5
SKINTOP® STR-M black						
53111300	STR-M 12 x 1,5	1-5	15	30.0	8.0	100
53111310	STR-M 16 x 1,5	2-7	19	34.0	8.0	100
53111320	STR-M 20 x 1,5	5-10	25	37.0	9.0	100
53111330	STR-M 25 x 1,5	6-13	30	40.0	10.0	50
53111340	STR-M 32 x 1,5	7-15	36	47.0	10.0	25
53111350	STR-M 40 x 1,5	15-23	46	52.0	10.0	10
53111360	STR-M 50 x 1,5	22-29	55	62.0	12.0	5
53111370	STR-M 63 x 1,5	28-39	66	71.0	12.0	5
SKINTOP® STR-M light grey						
53111500	STR-M 12 x 1,5	1-5	15	30.0	8.0	100
53111510	STR-M 16 x 1,5	2-7	19	34.0	8.0	100
53111520	STR-M 20 x 1,5	5-10	25	37.0	9.0	100
53111530	STR-M 25 x 1,5	6-13	30	40.0	10.0	50
53111540	STR-M 32 x 1,5	7-15	36	47.0	10.0	25
53111550	STR-M 40 x 1,5	15-23	46	52.0	10.0	10
53111560	STR-M 50 x 1,5	22-29	55	62.0	12.0	5
53111570	STR-M 63 x 1,5	28-39	66	71.0	12.0	5
SKINTOP® STR M ISO silver-grey (with long metric connecting thread)						
53017110	STR M 16 x 1,5	2-6	19	40.0	12.0	100
53017130	STR M 20 x 1,5	4-9	24	45.0	13.0	100
53017140	STR M 25 x 1,5	6-12	27	47.0	13.0	50
SKINTOP® STR M ISO black (with long metric connecting thread)						
53017310	STR M 16 x 1,5	2-6	19	40.0	12.0	100
53017330	STR M 20 x 1,5	4-9	24	45.0	13.0	100
53017340	STR M 25 x 1,5	6-12	27	47.0	13.0	50

■ Accessories

SKINTOP® ST-M

- SKINTOP® DIX-M
- SKINTOP® GMP-GL-M
- SKINTOP® DIX-M AUTOMATION see page 90
- SKINTOP® SDV-M ATEX
- SKINTOP® SD-M
- SKINTOP® DV-M

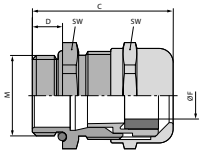
SKINTOP® STR-M

- SKINTOP® GMP-GL-M
- SKINTOP® SDVR-M ATEX
- SKINTOP® SD-M

New

SKINTOP® MS-M / SKINTOP® MSR-M

SKINTOP® MS-M



SKINTOP® MSR-M

Info

- **Sizes SKINTOP® MS-M 75x1,5 to 110x2 with innovative double lamella gasket for easier assembling of cables with large diameters.**
- **Now with IP 69 K approval! Proven functionality also during hardest cleaning procedures at industrial machinery with high-pressure cleaners and hot water!**

Benefits

SKINTOP® MS-M

- Maximum reliability
- Optimal strain relief
- Large, variable clamping ranges
- For cable diameters up to 98 mm

SKINTOP® MSR-M

- Benefits see SKINTOP® MS-M

Application range

SKINTOP® MS-M

- In areas with high demands on special mechanical and chemical stability.
- Chemical industry
- Measurement and control technology
- Machine and apparatus construction
- Plant engineering

SKINTOP® MSR-M

- With reducing seal insert, to seal cables with smaller outer diameters.

Approvals (Norm references)

Design

- Metric connection thread acc. to EN 50262

Note

- Counter nut to be used SKINDICHT® SM-M
- For suitable accessories see SKINTOP® metric accessories

Suitable cables

SKINTOP® MS-M

- For IP 69 K applications we recommend to use the following cables:
  ÖLFLEX® ROBUST 200
  ÖLFLEX® AQUA RN8
  ÖLFLEX® AQUA BAM

Technical data

Caution
Installation dimensions and tightening torques see Appendix T21

Approvals
UL, CSA, DNV, IP 69 K approval for size M75x1,5 pending
UL, CSA, DNV, VDE, IP 69 K approval for size M90x2 to M110x2 pending

Material
Body: Nickel plated brass
Insert: Polyamide
Seal: CR
O-ring: NBR

Degree of protection
IP 68
IP 69 K

Range of temperature
-30°C up to +100°C

Part number	Part designation / size	Clamping range ØF mm	SW mm	Overall length C mm	Thread length D mm	Pieces / PU
SKINTOP® MS-M						
53112000	12 x 1,5	3-7	16	26.5	6.5	100
53112010	16 x 1,5	4,5-10	20	32.0	7.0	100
53112020	20 x 1,5	7-13	24	35.5	8.0	50
53112030	25 x 1,5	9-17	29	37.5	8.0	25
53112040	32 x 1,5	11-21	36	42.2	9.0	25
53112050	40 x 1,5	19-28	45	49.5	9.0	10
53112060	50 x 1,5	27-35	54	52.0	10.0	5
53112070	63 x 1,5	34-45	67	61.3	15.0	5
53112080	63 x 1,5 plus	44-55	75	65.5	15.0	5
53112510	75 x 1,5	58-68	95	105.0	15.0	1
53112512	90 x 2	66-78	115	136.0	20.0	1
53112514	110 x 2	86-98	135	154.0	25.0	1
SKINTOP® MSR-M						
53112100	12 x 1,5	1-5	16	26.5	6.5	100
53112110	16 x 1,5	2-7	20	32.0	7.0	100
53112120	20 x 1,5	5-10	24	35.5	8.0	50
53112130	25 x 1,5	6-13	29	37.5	8.0	25
53112140	32 x 1,5	7-15	36	42.2	9.0	25
53112150	40 x 1,5	15-23	45	49.5	9.0	10
53112160	50 x 1,5	22-29	54	52.0	10.0	5
53112170	63 x 1,5	28-39	67	61.3	15.0	5
53112511	75 x 1,5	53-63	95	105.0	15.0	1
53112515	110 x 2	76-88	135	154.0	25.0	1

Accessories

SKINTOP® MS-M

- SKINDICHT® SM-M see page 88
- SKINTOP® DIX-M
- SKINTOP® DIX-M AUTOMATION see page 90
- SKINTOP® SDV-M ATEX
- SKINTOP® SD-M
- SKINTOP® DV-M

SKINTOP® MSR-M

- SKINDICHT® SM-M see page 88
- SKINTOP® SDVR-M ATEX
- SKINTOP® SD-M

New

SKINTOP® MS-SC-M BRUSH

Benefits
- Faster, easier screen contact
- Optimal low-resistance 360° screen contact
- Faster than any other comparable system
- Uncomplicated and reliable
- Maximum assembly and adjustment possibility

Application range
- For EMC compliant earthing of the copper braiding and copper shaft sheath.
- Automotive systems
- Conveyor technology
- High power drives
- Frequency converters

Approvals (Norm references)
CE DVE RoHS

Design
- Metric connection thread acc. to EN 50262

Note
- For painted, anodised or powdered-coated housings, you will require our EMC counter nut SKINDICHT® SM-PE-M for best contact

Info
- **Sizes SKINTOP® MS-SC-M BRUSH 75x1,5 to 110x2 with innovative double lamella gasket for easier assembling of cables with large diameters.**

Technical data
Caution
Installation dimensions and tightening torques see Appendix T21

Approvals
VDE approval for sizes M90x2 to 110x2 pending

Material
Body: nickel plated brass
Insert: polyamide
Seal: special elastomer
O-ring: special elastomer

Degree of protection
IP 68

Range of temperature
Dynamic: -30°C up to +100°C

Part number	Part designation / size	Outer-Ø mm from - to	Minimum Ø above braiding in mm	SW mm	Thread length D mm	Pieces / PU
SKINTOP® MS-SC-M BRUSH						
53112676	25 x 1,5	9.0-17.0	6.0	29	8.0	10
53112677	32 x 1,5	11.0-21.0	2.0	36	9.0	1
53112678	40 x 1,5	19.0-28.0	15.0	45	9.0	1
53112679	50 x 1,5	27.0-35.0	20.0	54	10.0	1
53112680	63 x 1,5	34.0-45.0	25.0	67	15.0	1
53112681	63 x 1,5 plus	44.0-55.0	30.0	75	15.0	1
53112501	75 x 1,5	53.0-63.0	40.0	95	15.0	1
53112500	75 x 1,5 plus	58.0-68.0	40.0	95	15.0	1
53112503	90 x 2	66.0-78.0	45.0	115	20.0	1
53112505	110 x 2	76.0-88.0	55.0	135	25.0	1
53112504	110 x 2 plus	86.0-98.0	55.0	135	25.0	1

Accessories
- SKINDICHT® SM-PE-M see page 89

New

SKINDICHT® SM-M

SKINDICHT® SM-M

Application range

- Needed wherever a gland has to be countered or thin walled housings only allow through holes.

Approvals (Norm references)

CE RoHS

Design

- Metric connection thread acc. to EN 50262

Technical data

Material
Nickel-plated brass

Part number	Part designation / size	Thickness in mm	SW mm	Outer Ø mm	Pieces / PU
SKINDICHT® SM-M					
52103000	12 x 1,5	3.0	15	16.5	100
52103010	16 x 1,5	3.0	19	20.9	100
52103020	20 x 1,5	3.5	24	26.4	100
52103030	25 x 1,5	4.0	30	33.0	100
52103040	32 x 1,5	4.0	36	39.6	100
52103050	40 x 1,5	5.0	46	50.6	50
52103060	50 x 1,5	5.0	60	66.0	50
52103070	63 x 1,5	5.0	70	77.0	25
52103071	75 x 1,5	8.0	75	95.0	5
52103072	90 x 2	10.0	102	114.0	1
52103073	110 x 2	12.0	124	135.0	1

New

SKINDICHT® SM-PE-M

SKINDICHT® SM-PE-M

Benefits

- Cutting edges cut through the insulating layer, thus guaranteeing an optimum EMC contact
- Suitable for metric glands used in earthing and EMC applications

Application range

- For lacquered, anodised and powder coated housings.

Approvals (Norm references)

CE RoHS

Design

- Metric connection thread acc. to EN 50262

Technical data

Material
Nickel-plated brass

Part number	Part designation / size	Thickness in mm	SW mm	Outer Ø mm	Pieces / PU
SKINDICHT® SM-PE-M					
52103300	12 x 1,5	3.5	15	16.5	100
52103310	16 x 1,5	3.5	19	20.9	100
52103320	20 x 1,5	3.7	24	26.4	100
52103330	25 x 1,5	4.2	30	33.0	50
52103340	32 x 1,5	4.7	36	39.6	50
52103350	40 x 1,5	5.5	46	50.6	25
52103360	50 x 1,5	5.5	60	66.0	10
52103370	63 x 1,5	7.0	70	77.0	10
52103371	75 x 1,5	8.0	75	95.0	5
52103372	90 x 2	10.0	102	114.0	1
52103373	110 x 2	12.0	124	135.0	1

SKINTOP® DIX-M AUTOMATION

SKINTOP® DIX-M AUTOMATION

Benefits

- Optimum seal when using AS-I bus cables
- Easy insertion of pre assembled cables (with fieldbus or RJ-45 connector)
- Strain relief

Application range

- This seals can be used instead of our standard seals in the SKINTOP® cable glands.
- Switch cabinets
- Control panels
- Office applications
- Automation technology

Approvals (Norm references)

CE RoHS

Note

- IP 68 can be achieved if the hole is optimally occupied, i. e. when using standard AS-I bus cables

Design

- True to dimension cut for AS-I bus cables
- Seal with hole and cut for easy insertion of pre assembled RJ-45 network cables
- Seal with hole and cut for easy insertion of pre assembled fieldbus cables
- Multiple seal inserts with holes and cuts for easy insertion of pre assembled cables

Technical data

Colour delivered
RAL 9005 black

Material
NBR

Degree of protection
IP 54

Range of temperature
-40°C up to +100°C

Part number	Part designation / size	Number of cables x Cable Ø	Pieces / PU
SKINTOP® DIX-M ASI			
53611001	M 20	1 x AS-I	50
SKINTOP® DIX-M ASI DUO			
53611004	M 25	2 x AS-I	50
SKINTOP® DIX-M RJ-45			
53440980	M 25	1 x 5.4	50
SKINTOP® DIX-M FIELDBUS			
53440970	M 32	1 x 6.5	50
SKINTOP® DIX-M CUTTED			
53310444	M 40	3 x 10.0	25

Accessories

- SKINTOP® CLICK
- SKINTOP® ST-M see page 84

New

SILVYN® FLEXILOK PG / SILVYN® FLEXILOK M

Info

- **Extremely economical**

Benefits

- Fast mounting
- Easy assembly
- Cost efficient conduit gland
- No losable parts
- New space-saveing design

Application range

- Mechanical engineering
- Switch cabinet building
- Flexible application
- Applications with critical required space
- Building Installation

Product features

- UV resistant and weather proof
- One-piece slim design
- Oil and petrol resistant
- Halogen and cadmium-free

Approvals (Norm references)

RoHS

Design

- Connection thread metric/PG
- One-piece body
- Special clamping system

Note

- Removeable by a screw driver

Suitable conduits

- SILVYN® FPAS
- Corrugated plasitc conduits

Technical data

On request
silver grey (RAL7031), white, light grey (RAL7035)
90° elbow version

Colour delivered
Black, UV-resistant

Material
PA66
Halogen-free

Degree of protection
IP 66

Range of temperature
-50°C up to +135°C

Part number	Connection thread M	Inner Ø in mm	Thread length D mm	Suitable for SILVYN® FPAS	Suitable for conduit OØ mm	Pieces / PU
SILVYN® FLEXILOK M straight						
65500405	16 x 1,5	12.0	12.0	FPAS 13	13,0 mm	50
65500415	20 x 1,5	14.0	14.0	FPAS 13	13,0 mm	50
65500425	16 x 1,5	12.0	12.0	FPAS 16	15,8 mm	50
65500435	20 x 1,5	14.0	14.0	FPAS 16	15,8 mm	50
65500445	20 x 1,5	14.0	14.0	FPAS 21	21,2 mm	50
65500455	25 x 1,5	20.0	15.0	FPAS 28	28,5 mm	50
65500465	32 x 1,5	27.0	16.0	FPAS 34	34,5 mm	50
SILVYN® FLEXILOK PG straight						
65500475	9.0	12.0	10.0	FPAS 13	13,0 mm	
65500485	11.0	12.0	10.0	FPAS 13	13,0 mm	50
65500495	9.0	12.0	10.0	FPAS 16	15,8 mm	50
65500395	11.0	15.0	10.0	FPAS 16	15,8 mm	50
68100055	13,5	15.0	10.0	FPAS 16	15,8 mm	50
68100065	16.0	15.0	11.0	FPAS 16	15,8 mm	50
68100075	13,5	16.0	10.0	FPAS 21	21,2 mm	50
68100085	16.0	18.0	11.0	FPAS 21	21,2 mm	50
68100095	21.0	23.0	12.0	FPAS 28	28,5 mm	50
68880005	29.0	31.0	12.0	FPAS 34	34,5 mm	50

New

FLEXIMARK® Collar Snap-on

FLEXIMARK® Collar Snap-on

Benefits

- Efficient way of marking on ready-installed cables and wires
- Scratch protection
- Unique system for rational and durable marking of wires and thin cables (e.g. fibre-optic cables) in control cabinets.

Application range

- FLEXIMARK® snap-on collar is composed of one rigid and elastic part that snaps onto the cable, and a soft, transparent part designed to hold the marker. It can therefore still be marked after the electrical connection has been made.
- UNITRONIC® Fieldbus sensor-/actuator wiring requirements

Approvals (Norm references)

RoHS

Note

- FLEXIMARK® labels LMB can be used in different marking collars. These labels are on DIN A 5 sheets and can be printed easily with the FLEXIMARK® Software 9.0.These labels are halogen-free.

Scope of delivery

- Marking collars without labels (please see FLEXIMARK® labels LMB - 10 pcs.DIN A 5 sheets a 46 labels)

Technical data

Approvals
Flame retardant in accordance with UL94 VO
Colour delivered
Transparent
Material
HD PE halogen-free
Range of temperature
-40°C up to +80°C

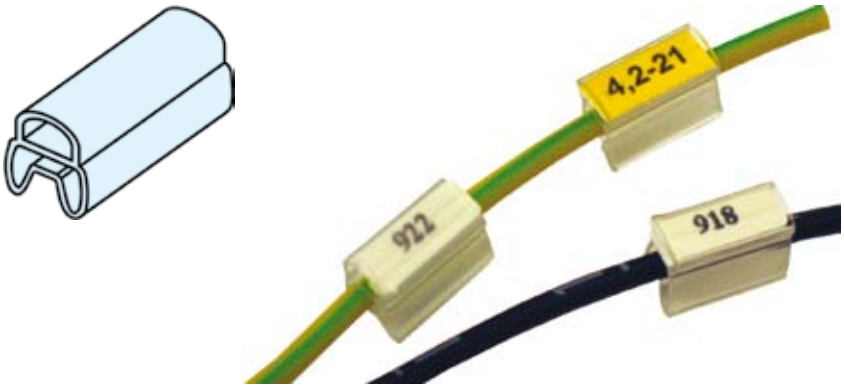
Part number	Article designation	Colour	Length in mm	for mm²	Pieces / PU
83252650	FLEXIMARK® collar Snap-on 2 - 3.5 / 10 mm	transparent	10.0	3.5	1,000
83252651	FLEXIMARK® collar Snap-on 2 - 3.5 / 15 mm	transparent	15.0	3.5	1,000
83252695	FLEXIMARK® collar Snap-on 2 - 3.5 / 23 mm	transparent	23.0	3.5	500
83252653	FLEXIMARK® collar Snap-on 2.8 - 5 / 10 mm	transparent	10.0	5	1,000
83252654	FLEXIMARK® collar Snap-on 2.8 - 5 / 15 mm	transparent	15.0	5	1,000
83252656	FLEXIMARK® collar Snap-on 5 - 8 / 10 mm	transparent	10.0	8	500
83252657	FLEXIMARK® collar Snap-on 5 - 8 / 15 mm	transparent	15.0	8	500
83252660	FLEXIMARK® collar Snap-on 8 - 10 / 15 mm	transparent	15.0	10	500
Suitable labels					
83254680	FLEXIMARK® labels LMB 30x4,6mm	white	30.0		460

Accessories

- FLEXIMARK® Software

New

FLEXIMARK® Collar halogenfree



FLEXIMARK® Collar halogenfree

Benefits

- Scratch protection
- Durable application
- FLEXIMARK® collars halogen-free are provided with a marking sleeve giving an efficient scratch protection for the marking, thus resistant towards most of the strains in the environment. This collar does not release halogenous substances if burned, and is therefore used in high-risk installations.

Application range

- Control cabinet wiring
- UNITRONIC® Fieldbus sensor-/actuator wiring requirements

Product features

- FLEXIMARK® labels LMB can be used in different marking collars. These labels are on DIN A 5 sheets and can be printed easily with the FLEXIMARK® Software 9.0.These labels are halogen-free.

Approvals (Norm references)

RoHS

Scope of delivery

- Marking collars without labels (please see FLEXIMARK® labels LMB - 10 pcs.DIN A 5 sheets a 46 labels)

Technical data

Approvals
Flame retardant in accordance with UL94 VO
Colour delivered
Transparent
Material
PUR halogen-free
Range of temperature
-50°C up to +80°C

Part number	Article designation	Colour	Length in mm	for mm²	Pieces / PU
83252670	FLEXIMARK® collar halogenfree 1.4 - 5 / 10 mm	transparent	10.0	5	1,000
83252671	FLEXIMARK® collar halogenfree 1.4 - 5 / 15 mm	transparent	15.0	5	1,000
83252693	FLEXIMARK® collar halogenfree 1.4 - 5 / 23 mm	transparent	23.0	5	500
83252672	FLEXIMARK® collar halogenfree 1.4 - 5 / 30 mm	transparent	30.0	5	500
83252673	FLEXIMARK® collar halogenfree 5.0 - 11,0 / 10 mm	transparent	10.0	11	500
83252674	FLEXIMARK® collar halogenfree 5.0 - 11,0 / 15 mm	transparent	15.0	11	500
83252694	FLEXIMARK® collar halogenfree 5.0 - 11,0 / 23 mm	transparent	23.0	11	200
83252675	FLEXIMARK® collar halogenfree 5.0 - 11,0 / 30 mm	transparent	30.0	11	200

Accessories

- FLEXIMARK® Software
- 83254680 FLEXIMARK® label LMB 69 x 4,7 WH

New

FLEXIMARK® Collar with cable tie

FLEXIMARK® Collar with cable tie

Info

- Sample labels on request

Benefits

- These FLEXIMARK® collars are also provided with an efficient scratch protection, which is why they can be mounted even in an outdoor environment.
- Reliable solution due to the fact of bundling with cable ties

Application range

- Together with the FLEXIMARK® labels LMB this becomes a reliable solution for marking. This collar can easily be mounted on a cable with cable ties.
- UNITRONIC® Fieldbus sensor-/actuator wiring requirements

Approvals (Norm references)

RoHS

Scope of delivery

- Marking collars without labels (please see FLEXIMARK® labels LMB - 10 pcs.DIN A 5 sheets a 46 labels)

Technical data

Approvals
Flame retardant in accordance with UL94 VO
Colour delivered
Transparent
Material
PUR halogen-free
Range of temperature
-40°C up to +80°C

Part number	Article designation	Colour	Length in mm	Pieces / PU
83252676	FLEXIMARK® collar for cable ties	transparent	30.0	200

Accessories

- FLEXIMARK® Software
- 83254680 FLEXIMARK® label LMB 69 x 4,7 WH

New

Kraftform® adjustable torque screwdriver/Kraftform Kompakt® Set

Kraftform® adjustable torque screwdriver/Kraftform Kompakt® Set

Benefits

- Fatigue free due to ergonomic grip design
- Suitable for many EPIC® connector systems and in network/automation branche (Sensor-/Actuator wiring requirements)
- Simple, free assembly in any position
- Safety close at hand

Application range

- When screwing smaller screws, the user often relies on his specialist sense.
- In practice, this can often lead to significantly higher extracting values.
- The consequences are ripped-off screw heads and over-twisted screw threads.
- Solution is offered by this practical torque screwdriver for 0.3 - 1.2 Nm.

Product features

- Quick and easy tool change thanks to the quick-change chuck

Design

- Torque screw driver Kraftform® for 0,3-1,2Nm
- Screw driver set Kraftform Kompakt® 10-pieces
  (Bit included: 1xR, 1xTZ, 1xTZ PH, 1xTZ PZ, 1xTZ TORX® in several versions incl.1 hand screw driver without torque system)

Scope of delivery

- Traceable calibration certificate contained in the scope of delivery

Technical data

Caution
Can be used without hesitation in areas requiring ESD protection
ESD version in acc. with EN 100-015 Part 1

General
Philips screwdriver PH (Phillips recess)

Approvals
Robust industrial design with excellent accuracy in accordance with ISO 6789 / EN 26789

Info
Controlled torque of 0.3-1.2Nm possible

Colour delivered
Black

Part number	Type	Measuring range	Length in mm	Pieces / PU
61813958	Torque screwdriver Kraftform®	0.3 - 1.2	180	1
61813990	Kraftform Kompakt® 10			1

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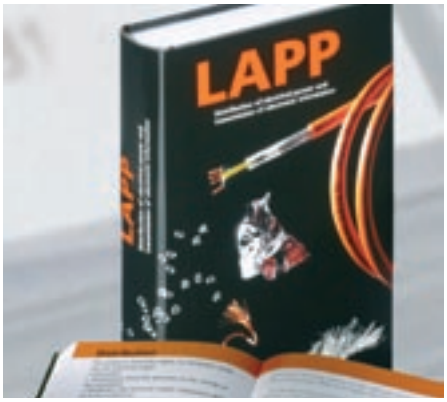
Guide, advisor, reference book

In this book, the reader will find all that is worth knowing about the generation, use, and distribution of electricity, as well as the technology of data communication, cables, control cables, and optic fibres. All of these topics are illustratively described and supplemented with articles, tables and specialist terminology.
This is a book both for trainees and experienced practitioners. It is available in German, English or Russian.



The Lapp Cable Guide

In the “Lapp Cable Guide“ you will find many of the technical terms used in the electrical industry. From A as in “absorption“ to Z as in “zinc“, the terms are listed in alphabetical order and accompanied by a short but concise explanation.
The “Lapp Cable Guide“ also contains a large number of useful tables and charts. The English translation is also provided, along with many tables and overviews.

A quick click instead of a long search:

The complete 2008/09 product catalogue on CD-ROM

Safety
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