

Webguide

**New Products Autumn 2022**

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## MACHINE AND PLANT ENGINEERING

Cables and accessories for machines and plants:  
a perfect match

at page 3



# MACHINE AND PLANT ENGINEERING

CABLES AND ACCESSORIES  
FOR MACHINES AND PLANTS:  
A PERFECT MATCH



NEW: Autumn 2022

## + ÖLFLEX® SERVO FD zeroCM

Electrically symmetrical PUR motor cable with outstanding electromagnetic compatibility and simplified cable connection thanks to innovative cable design, for cable chains.

## + ÖLFLEX® CLASSIC PN

PVC cable for power supply of PROFINET components, flexible and economic, colour-coded according to PROFINET guideline.

## + ÖLFLEX® CLASSIC 128 H BK SC

Halogen-free cable, single core, CPR Cca, for building wiring, variants „GN/YE“ with green/yellow core insulation for connection of the protective conductor.

## + SKINDICHT® Lead-free Series

Cable gland accessories made of lead-free brass to comply with future RoHS regulations (product characteristics identical to lead-containing articles).



# CABLES AND ACCESSORIES FOR MACHINES AND PLANTS: A PERFECT MATCH



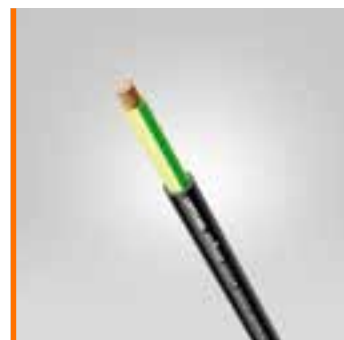
## ÖLFLEX® SERVO FD zeroCM

Please do not disturb! With our PUR motor cable with zeroCM® technology, your systems have peace and quiet from common-mode interference currents. Thanks to the innovative and patented cable design, 100% electrical symmetry and thus optimised EMC is achieved. The considerably simplified and time-saving connection of the cable, the North American certification as well as the approval for use in cable chains or even harsh ambient conditions make the cable a real highlight.



## ÖLFLEX® CLASSIC PN

Show your colours! Child's play with the PVC connection cable for supplying power to PROFINET components. Thanks to the colour coding in accordance with the PROFINET guideline, cores can be clearly identified - this simplifies the connection. As an economic alternative to our ÖLFLEX® CHAIN PN, the cable is perfect for occasional flexible use.



## ÖLFLEX® CLASSIC 128 H BK SC

New articles available: This halogen-free single core power cable with a high CPR classification places particular emphasis on smart material selection. It is more flexible than an installation cable such as N2XH and can be optimally used for building cabling. It is now also available with green-yellow core insulation.



## SKINDICHT® Lead-free Series

Whether blind plugs, reducers, extensions, adapters or locknuts - the accessories for cable glands must also be manufactured completely without the addition of lead in the long term. This is what the RoHS directive wants. With our lead-free products, you are already on the safe side. Don't worry, the product properties do not change due to the absence of lead!

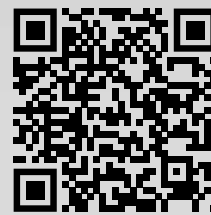
## Power and control cables

Power chain applications • Servo applications – power drive systems, certified

NEW



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### Technical Data

**Classification ETIM 5/6**  
ETIM 5.0/6.0 Class-ID: EC000057  
ETIM 5.0/6.0 Class-Description: Low voltage power cable

**Core identification code**  
Power cores: black with marking U/  
L1/C/L+; V/L2; W/L3/D/L-; GN/YE  
protective conductor

**Conductor stranding**  
Extra-fine wire according to VDE 0295,  
class 6/IEC 60228 class 6

**Minimum bending radius**  
Flexing: up from 10 x outer diameter  
Fixed installation: 5 x outer diameter

**Nominal voltage**  
IEC U<sub>c</sub>/U<sub>i</sub>: 600/1000 V  
UL & CSA: 1000 V

**Test voltage**  
Core/Core: 4 kV  
Core/Screen: 4 kV

**Protective conductor**  
G = with GN-YE protective conductor  
Bending cycles & operation  
parameters  
See Selection Table A2-1 in the  
appendix of our online catalogue

**Temperature range**  
Flexing: -40 °C to +90 °C  
(UL/CSA: +80 °C)  
Fixed installation: -50 °C to +90 °C  
(UL/CSA: +80 °C)

## ÖLFLEX® SERVO FD zeroCM

Electrically symmetrical PUR motor cable with outstanding electromagnetic compatibility and simplified cable connection thanks to innovative cable design, for cable chains.

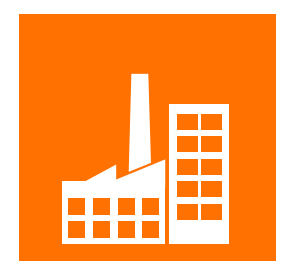
### Benefits

- Low-capacitance bundle design with counterrotating protective conductor (zeroCM® technology) enables completely electrically symmetrical cable construction and improves electromagnetic compatibility.
- zeroCM® technology has been proven to reduce leakage currents in protective earth or equipotential bonding cables, thus reducing harmful currents at the motor bearing, electromagnetic interference on data transmission and corrosion on building structures.
- zeroCM® technology reduces transfer currents in frequency converter applications and thus enables almost double cable lengths.
- zeroCM® technology prevents potential voltages at earth connections on the consumer side.
- Long-life cable chain use for medium travel distances or increased accelerations (LAPP performance class „Core Line“).
- Extremely weather-resistant with the possibility of use in a wide temperature range.
- Particularly resistant to oil and drilling fluids, making it ideal for harsh environments.
- UL/CSA certification according to technical data allows use of the product in the North American area.

- Halogen-free and flame-retardant materials reduce the potential hazards in case of fire.
- No splitted protective conductor enables conventional cable connection with only one protective conductor.

### Application

- For connecting frequency inverter and motor.
- Especially for environments where electromagnetic compatibility (EMC) is required.
- Cable design allows highly flexible, continuously moving use in moving machine parts and in the cable chain.
- Can be used in dry, damp and especially in rough and oily environments.
- PUR outer jacket withstands high mechanical loads.
- PUR outer jacket is insensitive to mineral oil-based lubricants and chemically resistant in many cases.
- Suitable for outdoor use.
- Flexible use possible at up to -40 °C.





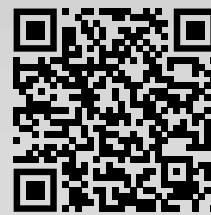
## Power and control cables

Various applications • PVC outer sheath and coloured cores

NEW



Click or Scan – More information available online



## ÖLFLEX® CLASSIC PN

PVC cable for power supply of PROFINET components, flexible and economic, colour-coded according to PROFINET guideline.


### Benefits


- Colour code according to PROFINET guideline „PROFINET Cabling and Interconnection Technology“ for clear identification of the wires.
- Space-saving due to reduced wall thicknesses.
- High electrical safety due to 4000 V test voltage.
- Classified fire behaviour according to EU Directive 305/2011 (BauPVO/CPR) with article number selection at [www.lappkabel.de/cpr](http://www.lappkabel.de/cpr).


### Application


- For power supply of PROFINET components.
- For fixed installation and occasional movement without tensile stress.
- Cable design also suitable for torsion applications in wind turbines.
- Suitable for medium mechanical stress.
- Can be used in dry and damp rooms.
- PVC outer sheath is resistant to acids and alkalis and conditionally resistant to oil.


## Technical Data


 **Classification ETIM 5/6**  
ETIM 5.0/6.0 Class-ID: EC001578  
ETIM 5.0/6.0 Class-Description:  
Flexible cable


 **Core identification code**  
brown (L1), blue (N1), black (L2),  
white (N2)  
3/5 cores: additionally pink (FE)


 **Conductor stranding**  
Fine wire according to VDE 0295,  
class 5/IEC 60228 class 5

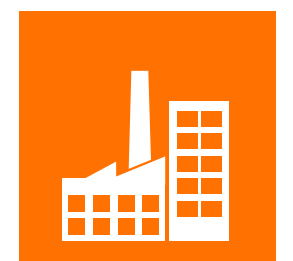
 **Torsion movement in WTG**  
TW-0 & TW-1, refer to Appendix T0

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

 **Nominal voltage**  
 $U_0/U$ : 300/500 V

 **Test voltage**  
4000 V

 **Temperature range**  
Occasional flexing: -5 °C to +70 °C  
Fixed installation: -40 °C to +80 °C



## Power and control cables

Various applications • Halogen-free ÖLFLEX®

# ÖLFLEX® CLASSIC 128 H BK SC

**What is new?** The halogen-free cable is now also available with green-yellow core insulation for connecting the protective conductor.

### Benefits

- Easy handling and installation due to flexible design.
- Halogen-free and highly flame-retardant materials reduce the risk of fire propagation, high smoke density and toxic fumes in case of fire.
- Classified fire behaviour according to EU Directive 305/2011 (BauPVO/CPR) with article number selection at [www.lappkabel.de/cpr](http://www.lappkabel.de/cpr).
- High electrical safety due to 4000 V test voltage.
- Variants „GN/YE“ with green-yellow core insulation for connection of the protective conductor.

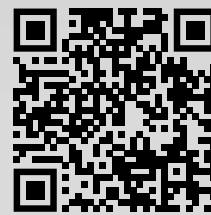
### Application

- For building wiring to comply with special fire protection requirements.
- Can be used universally for wiring internal and cross-machine control circuits.
- For fixed installation and occasional movement without tensile stress.
- Can be used in dry and damp rooms.
- Suitable for medium mechanical stress.


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## Technical Data


 **Classification ETIM 5/6**  
ETIM 5.0/6.0 Class-ID: EC000057  
ETIM 5.0/6.0 Class-Description: Low voltage power cable


 **Core identification code**  
Black or green/yellow


 **Conductor stranding**  
Fine wire according to VDE 0295 Class 5 / IEC 60228 Class 5


 **Torsion movement in WTG**  
TW-0 & TW-1, refer to Appendix T0

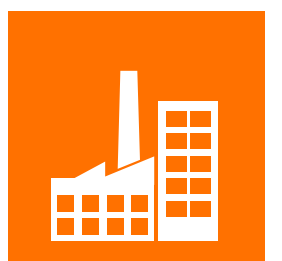
 **Minimum bending radius**  
Occasional flexing: 15 x outer diameter  
Fixed installation: 4 x outer diameter

 **Nominal voltage**  
 $U_0/U$ : 600/1000 V

 **Test voltage**  
4000 V

 **Protective conductor**  
G = with GN-YE protective conductor  
X = without protective conductor

 **Temperature range**  
Occasional flexing: -5 °C to +70 °C  
Fixed installation: -40 °C to +80 °C



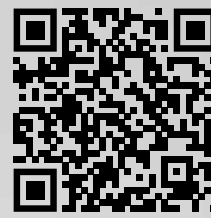
## Cable glands

SKINDICHT® cable gland accessories metric • Blind plugs

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## SKINDICHT® BL-M

**What is new?** The blind plug is now available in further sizes made of lead-free brass.


### Benefits


- Withstands temperatures up to +200 °C.
- Simple assembly by means of a slotted screwdriver.
- Article numbers ending in „LF“ are lead-free product alternatives with otherwise the same product properties. „Lead-free“ articles do not contain lead, which is currently still allowed to make up to four percent in copper alloys, but could be banned in the future according to the RoHS Directive.


### Application


- For closing an unoccupied metric threaded hole on the housing.
- Withstands high chemical and mechanical stress.
- Suitable for outdoor use.


## Technical Data


 **Classification ETIM 5/6**  
ETIM 5.0/6.0 Class-ID: EC000032  
ETIM 5.0/6.0 Class-Description: Plug for cable screw gland

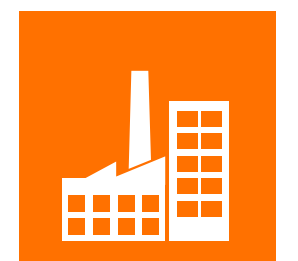
 **Certifications**  
UL File E79903

 **On request**  
Fitted with FKM O-ring (-20 °C to +200 °C)

 **Material**  
Body: Nickel-plated brass, leadfree  
O-ring: NBR

 **Protection rating**  
IP 54  
IP 68 (with O-ring)

 **Temperature range**  
With O-ring: -20 °C to +100 °C  
Without O-ring: -60 °C to +200 °C





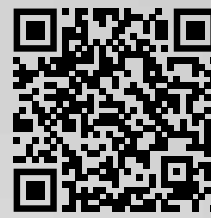
## Cable glands

SKINDICHT® cable gland accessories metric • Blind plugs

NEW



Click or Scan – More information available online



### Technical Data

**Classification ETIM 5/6**  
ETIM 5.0/6.0 Class-ID: EC000032  
ETIM 5.0/6.0 Class-Description: Plug for cable screw gland

**Certifications**  
UL File E79903

**On request**  
Fitted with FKM O-ring (-20 °C to +200 °C)

**Material**  
Body: Nickel-plated brass, leadfree  
O-ring: NBR

**IP Protection rating**  
IP 54  
IP 68 (with O-ring)

**Temperature range**  
With O-ring: -20 °C to +100 °C  
Without O-ring: -60 °C to +200 °C

## SKINDICHT® BL-M with O-ring

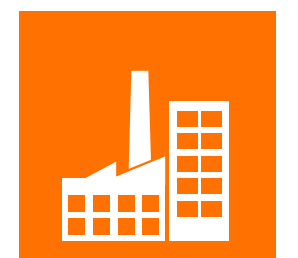
**What is new?** The blind plug is now available in further sizes made of lead-free brass.

### Benefits

- Withstands temperatures up to +100 °C.
- The groove on the thread ensures a secure fit and protection against rotation of the O-ring.
- Mounted O-ring enables liquid-tight sealing of the threaded/through hole and thus a higher degree of protection (up to IP 68).
- Simple assembly by means of a slotted screwdriver.
- Article numbers ending in „LF“ are lead-free product alternatives with otherwise the same product properties. „Lead-free“ articles do not contain lead, which is currently still allowed to make up to four percent in copper alloys, but could be banned in the future according to the RoHS Directive.

### Application

- For closing an unoccupied metric threaded/through hole on the housing.
- Withstands high chemical and mechanical stress.
- Suitable for outdoor use.



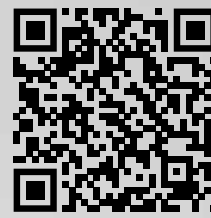
## Cable glands

SKINDICHT® cable gland accessories metric • Adapter

NEW



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## SKINDICHT® MA-M/PG

**What is new?** The adapter is now available in other sizes made of lead-free brass.


### Benefits


- Enables easy transition from a metric male thread to a PG female thread.
- Withstands temperatures up to +200 °C.
- Article numbers ending in „LF“ are lead-free product alternatives with otherwise the same product properties. „Lead-free“ articles do not contain lead, which is currently still allowed to make up to four percent in copper alloys, but could be banned in the future according to the RoHS Directive.


### Application


- For applications where different types of threads are used.
- Withstands high chemical and mechanical stress.
- Suitable for outdoor use.

## Technical Data

 **Classification ETIM 5/6**  
ETIM 5.0/6.0 Class-ID: EC000441  
ETIM 5.0/6.0 Class-Description:  
Cable screw gland

 **On request**  
with O-ring fitted

 **Material**  
Nickel-plated brass, leadfree

 **Temperature range**  
-60 °C to +200 °C



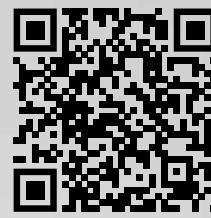
## Cable glands

SKINDICHT® cable gland accessories metric • Adapter

**NEW**



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## SKINDICHT® MA-PG/M

**What is new?** The adapter is now available in other sizes made of lead-free brass.


### Benefits


- Enables easy transition from a PG male thread to a metric female thread.
- Withstands temperatures up to +200 °C.
- Form A in easy-grip knurled design for easy screwing in of the adapter even in oily environments; form B in smooth design.
- Article numbers ending in „LF“ are lead-free product alternatives with otherwise the same product properties. „Lead-free“ articles do not contain lead, which is currently still allowed to make up to four percent in copper alloys, but could be banned in the future according to the RoHS Directive.


### Application


- For applications where different types of threads are used.
- Withstands high chemical and mechanical stress.
- Suitable for outdoor use.

## Technical Data

 **Classification ETIM 5/6**  
ETIM 5.0/6.0 Class-ID: EC000441  
ETIM 5.0/6.0 Class-Description: Cable screw gland

 **On request**  
with O-ring fitted

 **Material**  
Nickel-plated brass, leadfree

 **Temperature range**  
-60 °C to +200 °C



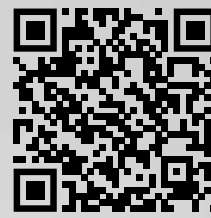
## Cable glands

SKINDICHT® cable gland accessories metric • Adapter

NEW



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## SKINDICHT® MA-M/NPT

**What is new?** The adapter is now available in other sizes made of lead-free brass.

### Benefits

- Allows easy transition from a metric male thread to an NPT female thread.
- Withstands temperatures up to +200 °C.
- Article numbers ending in „LF“ are lead-free product alternatives with otherwise the same product properties. „Lead-free“ articles do not contain lead, which is currently still allowed to make up to four percent in copper alloys, but could be banned in the future according to the RoHS Directive.

### Application

- For applications where different types of threads are used.
- Withstands high chemical and mechanical stress.
- Suitable for outdoor use.

## Technical Data



**Classification ETIM 5/6**  
ETIM 5.0/6.0 Class-ID: EC000441  
ETIM 5.0/6.0 Class-Description: Cable screw gland



**On request**  
with O-ring fitted



**Material**  
Nickel-plated brass, leadfree



**Temperature range**  
-60 °C to +200 °C





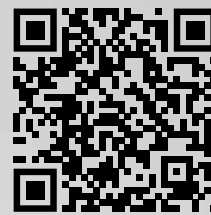
## Cable glands

SKINDICHT® cable gland accessories metric • Counter nuts

NEW



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## SKINDICHT® SM-PE-M

**What is new?** The locknut is now available in other sizes made of lead-free brass.

### Benefits

- Optimum contacting of a coated enclosure for protection against electromagnetic interference and for equipotential bonding.
- Contact is achieved when the locknut is tightened by the cutting edges scratching the coated layer of the housing.
- Withstands temperatures up to +200 °C.
- Article numbers ending in „LF“ are lead-free product alternatives with otherwise the same product properties. „Lead-free“ articles do not contain lead, which is currently still allowed to make up to four percent in copper alloys, but could be banned in the future according to the RoHS Directive.

### Application

- For use on the inside of painted, anodised or powder-coated enclosures.
- Can be used with metric SKINTOP® and SKINDICHT® cable glands for applications where electromagnetic compatibility (EMC) is required.
- Withstands high chemical and mechanical stress.
- Suitable for outdoor use.

## Technical Data



**Classification ETIM 5/6**  
ETIM 5.0/6.0 Class-ID: EC000940  
ETIM 5.0/6.0 Class-Description:  
Locknut for cable screw gland



**Temperature range**  
-60 °C to +200 °C



**Material**  
Nickel-plated brass, leadfree

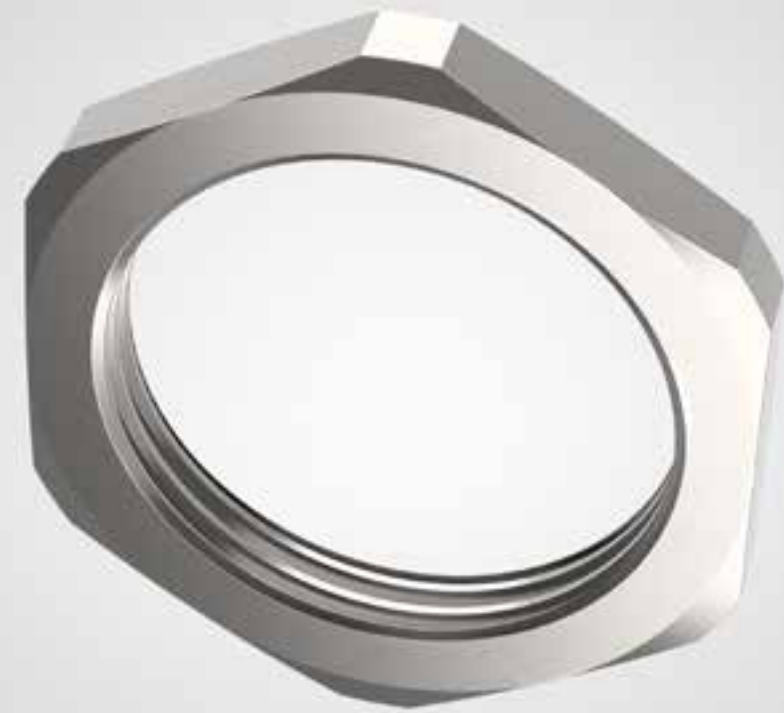




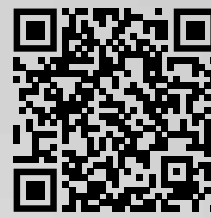
## Cable glands

SKINDICHT® cable gland accessories PG • Counter nuts

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## SKINDICHT® SM

**What is new?** The locknut is now available in other sizes made of lead-free brass.


### Benefits


- Article numbers ending in „LF“ are lead-free product alternatives with otherwise the same product properties. „Lead-free“ articles do not contain lead, which is currently still allowed to make up to four percent in copper alloys, but could be banned in the future according to the RoHS Directive.


### Application

- For countering a SKINTOP®/SKINDICHT® cable gland on the inside of the application (e.g. enclosure).
- For thin-walled housings without thread, which only allow one through hole.
- Withstands high chemical and mechanical stress.

## Technical Data

 **Classification ETIM 5/6**  
ETIM 5.0/6.0 Class-ID: EC000940  
ETIM 5.0/6.0 Class-Description:  
Locknut for cable screw gland

 **Material**  
Nickel-plated brass, leadfree

 **Temperature range**  
-60 °C to +200 °C



# LEGEND

## NEW PRODUCT



## PRODUCT EXTENSION



## PRODUCT CHARACTERISTICS



Suitable for outdoor use



Good chemical resistance



Flame-retardant



Wide clamping range



Halogen-free



Heat-resistant



Cold-resistant



Corrosion-resistant



Maximum vibration protection



Mechanical resistance



Assembly time



Low weight



Oil-resistant



Optimum strain relief



Space requirement



Cable chain



Clean room



Robust



Acid-resistant



Reliability



Integrated SKINTOP® cable gland



Voltage



Connector with standard housing unit



Interference signals



Temperature-resistant



Torsion-resistant



Torsion load



UV-resistant



Waterproof



Variety of approval certifications



Submersible use

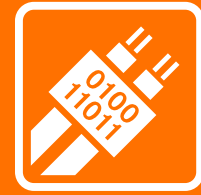
**Please note:**  
The purpose of the icons is to provide you with a quick overview and a rough indication of the product features to which the corresponding information relates. You can find details of product characteristics in the “technical data” sections on the product pages.



**ÖLFLEX®**  
Power and control cables



**EPIC®**  
Industrial connectors



**UNITRONIC®**  
Data communication systems



**SKINTOP®**  
Cable glands



**ETHERLINE®**  
Data communication systems  
for ETHERNET technology



**SILVYN®**  
Protective cable conduit systems  
and cable carrier systems



**HITRONIC®**  
Optical transmission systems



**FLEXIMARK®**  
Marking systems

Note: A detailed article list is available online or from your contact person.



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Due to the current material shortages,  
delivery times may be longer.