

### M12 female 90° A-cod. with cable LED

PVC 3x0.34 bk UL/CSA 10m

Art.No.: 7000-12381-6131000

Weight: 0.364 kg

Country of origin: DE

Model designation: MSDL1-R613\_10.0

#### Advantages of our connectors:

Our connectors are versatile and specially optimised for industrial environments. All connectors are 100% tested during the manufacturing process to ensure the highest quality and reliability.

The contacts are gold-plated, which ensures optimum conductivity. Thanks to the high degree of protection, the connectors are ideal for demanding industrial environments. They are also vibration-resistant - this is ensured by the union nut with vibration protection.

Our connectors are resistant to oils and cooling lubricants, but resistance to aggressive media should be tested for each specific application. Different cable lengths available [on request](#)

If you are missing technical information? Please feel free to use our [dictionary](#) to find more technical details.

#### Product details:

Female 90°

M12, 3-pole

2x LED (PNP)

Art-No. 7005 - M12 Lite - (plastic hexagonal screw) on request

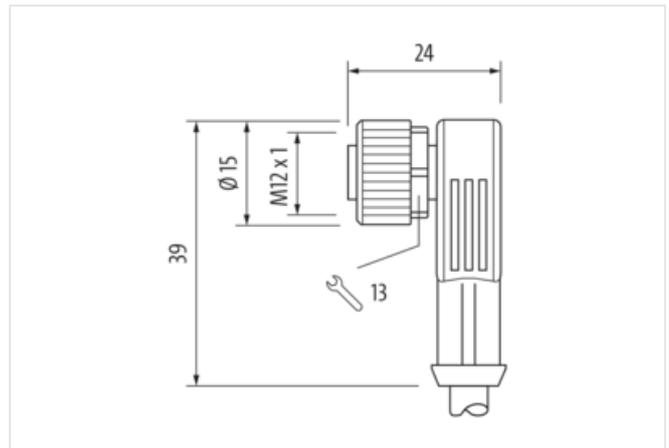
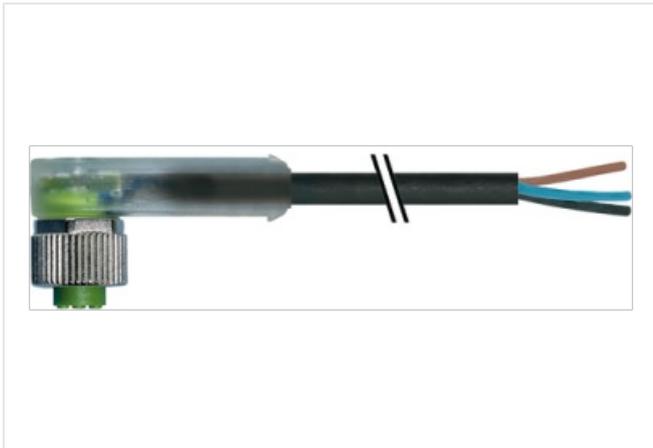
Plastic housings with good resistance against chemicals and oils.

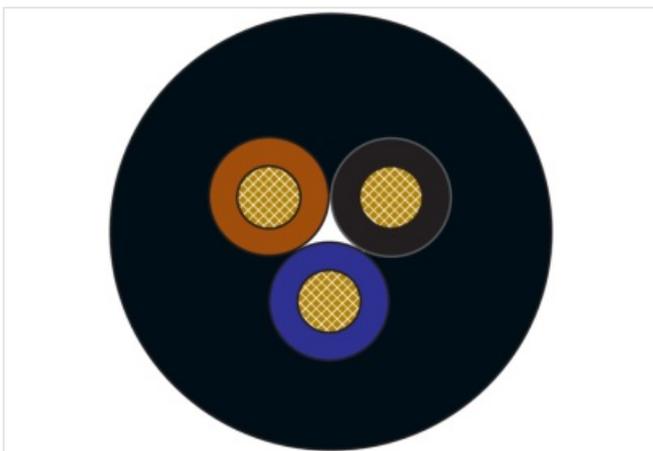
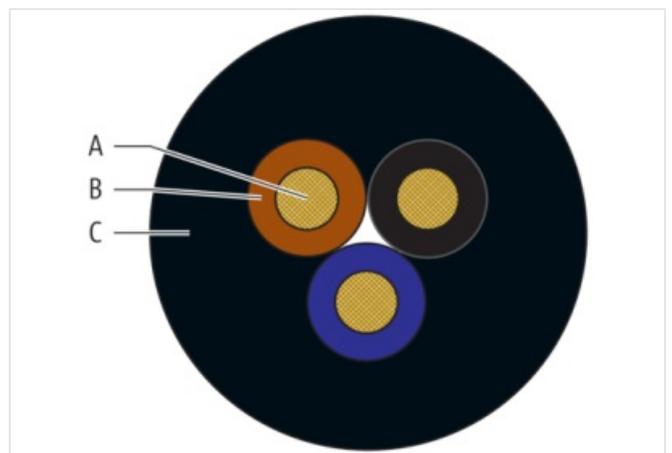
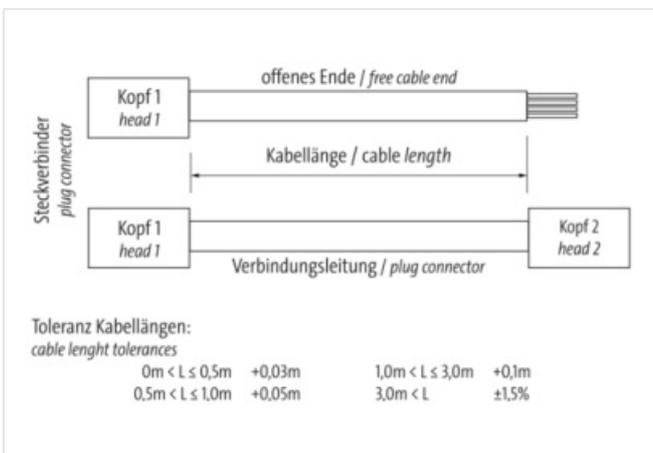
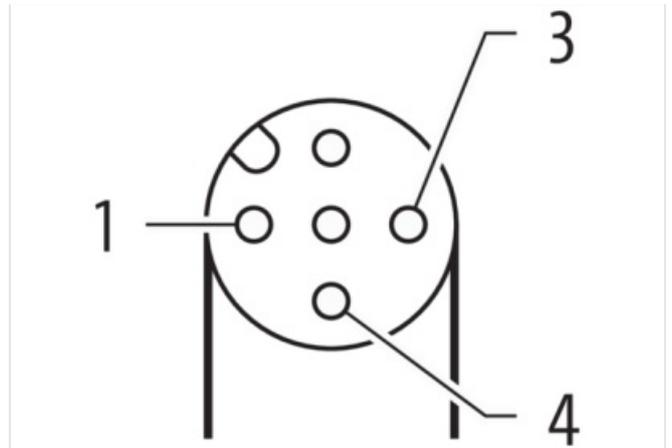
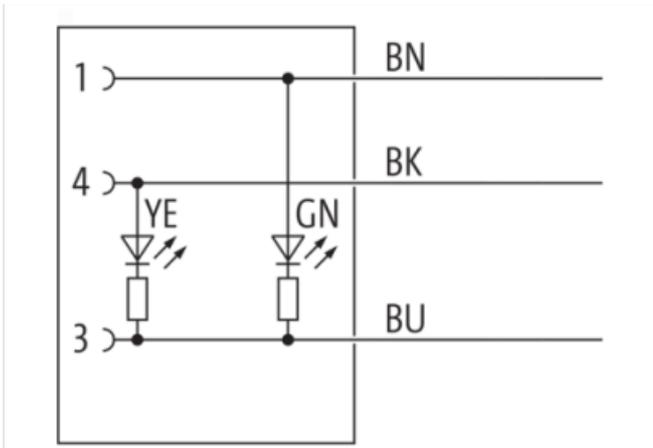
The resistance to aggressive media should be individually tested for your application. Further details on request.

Further cable lengths on request.

#### [Link to Product](#)

##### Illustration





Product may differ from Image



**Commercial data**

Material short text	MSDL1-R613_10.0
URL Webshop	<a href="https://shop.murrelektronik.com/7000-12381-6131000">https://shop.murrelektronik.com/7000-12381-6131000</a>
GTIN	4048879204569

ECLASS-6.0	27279218
ECLASS-6.1	27279218
ECLASS-7.0	27279218
ECLASS-7.1	27279218
ECLASS-8.0	27279218
ECLASS-8.1	27279218
ECLASS-9.0	27060311
ECLASS-9.1	27060311
ECLASS-10.0.1	27060311
ECLASS-10.1	27060311
ECLASS-11.0	27060311
ECLASS-11.1	27060311
ECLASS-12.0	27060311
ECLASS-13.0	27060311
ECLASS-14.0	27060311
ETIM-5.0	EC001855
ETIM-6.0	EC001855
ETIM-7.0	EC001855
ETIM-8.0	EC001855
customs tariff number	85444290
EAN	4048879204569
Packaging unit	1

Cable length	10,00 m
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**Side 1**

Family construction form	M12
No. of poles	3
Coding	A
Gender	female
Mounting method	inserted, screwed
Threaded hole	M12 x 1
Tightening torque	0,6 Nm
Width across flats	SW13
Cable outlet	angled
suitable for corrugated tube (internal Ø)	10 mm
Material	PUR
Material contact	Copper alloy
Coating contact	gold plated
Degree of protection (EN IEC 60529)	IP67, IP66K, IP65

**Side 2**

Family construction form	free cable end
Stripping length (jacket)	20 mm

**Electrical data | Supply**

Operating voltage DC	24 V
Operating voltage DC min.	18 V
Operating voltage DC max.	30 V
Current operating per contact max.	4 A
Operating voltage DC max. (UL-listed)	30 V

**Diagnostics**

Status indication LED	green, yellow
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**Installation | Connection**

Gender	female
Mounting set	M12 x 1

Device protection   Electrical	
Degree of protection (EN IEC 60529)	IP67, IP66K, IP65
Additional condition protection degree	inserted, screwed
Pollution Degree	3
Rated surge voltage	0,8 kV
Material group (IEC 60664-1)	I
Mechanical data   Material data	
Material screw connection	Zinc die-casting
Coating of fitting	nickel plated
Locking material	Zinc die-casting
Coating locking	Nickeled
Material gasket	FKM
Mechanical data   Mounting data	
Mounting method	inserted, screwed, Shaking protection
Environmental characteristics   Climatic	
Operating temperature min.	-30 °C
Operating temperature max.	85 °C
Additional condition temperature range	depending on cable quality
Important installation notes	
Note on bending radius	<b>Attention:</b> Observe the permissible bending radii when laying cables, as the IP protection class can be endangered by excessive bending forces.
Note on strain relief	Protect the connectors by suitable measures from mechanical loads, e.g. by the usage of cable ties.
Conformity	
Product standard	EN IEC 61076-2-101 (M12)
Installation   Cable	
Cable identification	613
Cable Type	1
Amount stranding	1
Stranding	3 wires stranded
Wire arrangement	brown, black, blue
Cable weight	31 g/m
Material wire insulation	PVC
Amount wires	3
Outer diameter insulation	1,25 mm
Outer diameter tolerance core insulation	± 0,05 mm
Shore hardness wire insulation	45 ± 5 Shore D
Material properties wire insulation	good machinability
Ingredient freeness wire insulation	lead-free, cadmium-free, CFC-free, silicone-free
Amount strands (wire)	19
Diameter of single wires	0,15 mm
Conductor crosssection (wire)	0,34 mm <sup>2</sup>
Material conductor wire	Stranded copper wire, bare
Conductor type (wire)	Strand class 5
Outer-diameter (jacket)	4,6 mm
Tolerance outer diameter (sheath)	± 5 %
Material jacket	PVC
Shore hardness jacket	85 ± 5 Shore A
Freedom from ingredients (jacket)	lead-free, cadmium-free, CFC-free, silicone-free
Material property (jacket)	good machinability
Conductor resistance (wire)	57 Ω/km @ 20 °C
Nominal voltage max.	300 V
Withstand voltage (wire - wire)	2 kV @ 60 s

Withstand voltage (wire - jacket)	2 kV @ 60 s
Current load capacity (standard)	to DIN VDE 0298-4
Current load capacity max. (wire)	6 A
Operating temperature min. (static)	-30 °C
Operating temperature max. (static)	80 °C
Operating temperature min. (dynamic)	-5 °C
Operating temperature max. (dynamic)	80 °C
Flame resistance	UL 1581 § 1080, CSA FT1, IEC 60332-1-2
Oil resistance	good
Chemical resistance	good
Other resistances	good resistance to gasoline
Bending radius (fixed)	5 × Outer diameter
Bending radius (dynamic)	10 × Outer diameter