

- According to DIN EN 61810-1, DIN EN 61810-3 (Type A resp. Type B)
- With forcibly guided contacts
- Clearance and creepage distances:  
Contact - coil  $\geq 8$  mm,  
Contact - contact  $\geq 5.5$  mm
- **Double and reinforced insulation between contact sets**
- Low rated power consumption
- High mechanical service life
- Compact size, small height
- Wash proof model as option

**Applications**

- Switchgear for safety technology
- Escalators and walkways
- Elevators for men and load
- Press controls
- Railway technology

**Approvals and Markings**



**Technical Data**

<b>Relay type</b>	OA/OW 5669
<b>1.0 Relay coil</b>	
1.1 Nominal voltage	DC 6, 12, 20, 24, 48, 60, 110 V (other on request)
1.2 Nominal consumption	0.7 W
1.11 Voltage range	0.8 ... 1.6 $U_N$
1.3 Holding power (at 0.5 x $U_N$ )	0.18 W
<b>2.0 Contacts</b>	
2.1 Contact arrangement	1 NC / 1 NO (type A) 2 changeover contacts (type B)
2.2 Contact material	AgSnO <sub>2</sub> + 0.2 $\mu$ m Au; AgNi + 0.2 $\mu$ m Au, AgNi + 5 $\mu$ m Au
2.3 Rated insulation voltage	AC 250 V
Switching voltage min./max.	AC/DC 10 V / DC 250 V, AC 400 V (AC/DC 2 V / 60 V) <sup>1)</sup>
2.4 Limiting continuous current $I_{th}$	2 x 5 A (see operating voltage limit curve)
Switching current min./max.	10 mA <sup>3)</sup> / 8 A (2 mA / 0.3 A) <sup>1)</sup>
2.5 Switching power min./max.	0.1 VA / 2000 VA (10 mVA / 12 VA) <sup>1)</sup>
Switching power min./max.	0.1 W <sup>3)</sup> / 200 W (10 mW / 12 W) <sup>1)</sup> (see limit curve for arc-free operation)
2.6 Switching capacity to IEC/EN 60947-5-1	
AC 15 <sup>4)</sup>	NO: AC 250 V / 2 A      NC: AC 250 V / 1 A
AC 15 <sup>5)</sup>	NO: AC 250 V / 3 A      NC: AC 250 V / 2 A
DC 13 <sup>4)</sup>	NO: DC 24 V / 2 A      NC: DC 24 V / 1 A
DC 13 <sup>4)</sup> at 0.1 Hz	NO: DC 24 V / 4 A      NC: DC 24 V / 4 A
to UL 508	R300
2.7 Electrical life <sup>2)</sup>	At 1 s On, 1 s Off (see contacts service life)
AC 230 V 6 A cos $\varphi$ = 1	> 2 x 10 <sup>5</sup> switching cycles AgSnO <sub>2</sub> > 2 x 10 <sup>5</sup> switching cycles AgNi
2.8 Switching frequency max.	10 switching cycles/s
2.9 Response time / Release time	Typically 15 ms / Typically 5 ms
2.10 Contact force	$\geq 10$ cN / $\geq 8$ cN
2.14 Contact gap	> 0.5 mm <sup>7)</sup>
<b>3.0 Other</b>	
3.1 Mechanical life	$\geq 50$ x 10 <sup>6</sup> Switching cycles
3.2 Temperature range	- 40 ... + 70 °C <sup>6)</sup> mounted without distance ( $I_{th}$ = 2 x 5 A)
3.3 Degree of protection	Solder line proof RT II as option wash proof RT III
3.4 Test procedure	A (group mounting)
3.5 Vibration resistance	10 ... < 60 Hz; 1.2 mm Amplitude; (NO contact) IEC/EN 60068-2-6 10 ... < 60 Hz; 0.35 mm Amplitude; (NC contact) IEC/EN 60068-2-6 60 ... 200 Hz, $\leq 10$ g (NO contact) IEC/EN 60068-2-6 60 ... 200 Hz, $\leq 3$ g (NC contact) IEC/EN 60068-2-6
3.6 Climate resistance	40 / 070 / 04; A / B / D IEC/EN 60068-1
3.7 Short circuit strength 1 kA / AC 250 V	AgSnO <sub>2</sub> 10 A gG / gL IEC/EN 60947-5-1 AgNi 6 A gG / gL IEC/EN 60947-5-1

<sup>1)</sup> Values for AgNi-contacts + 5  $\mu$ m Au

<sup>2)</sup> 10 A total current at t = 20°C and coil voltage  $U_N$

<sup>3)</sup> Typical values for AgSnO<sub>2</sub> and AgNi

<sup>4)</sup> Values for AgNi-contacts

<sup>5)</sup> Values for AgSnO<sub>2</sub>-contacts

<sup>6)</sup> UL: + 60 °C

<sup>7)</sup> Over entire service life acc. to DIN EN 61810-3

## Technical Data

3.8	Insulation acc. to IEC 60664-1, EN 50178	<b>Double and reinforced insulation</b>
	Rated insulation voltage	AC 250 V
	Pollution degree	2
	Overtoltage category	III
	Test voltage	
	Contact-coil (1 min)	≥ AC 4 kV eff.
	Contact-contact (1 min)	≥ AC 4 kV eff.
	Contact open (1 min)	≥ AC 1.5 kV eff.
	Transient voltage	
	Contact-coil (1.2 - 50 μs)	≥ 6 kV
	Clearance and creepage distances	
	Contact-coil	≥ 8 mm
	Contact-contact	≥ 5.5 mm
3.9	Weight	Approx. 19 g
<b>4.0 Packing</b>		
4.1	On cardboard in slipcase	56 pieces
4.2	In case package	280 pieces
<b>5.0 Solder method</b>		
5.1	Solder method /-temperature /-duration	Wave soldering / 260 °C / 5 s

## Design versions

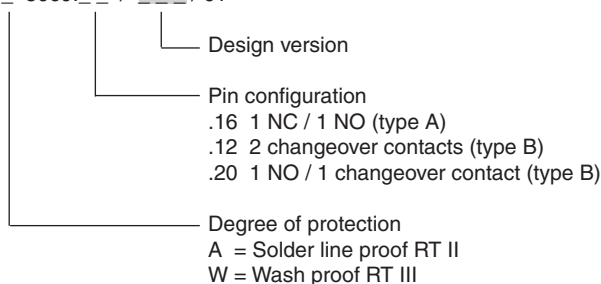
U <sub>N</sub> (DC V)	Voltage range (DC V)	R <sub>Coil</sub> Ω ± 10%	AgNi - contacts + 0.2 μm Au			AgNi - contacts + 5 μm Au		AgSnO <sub>2</sub> - contacts + 0.2 μm Au	
			OA5669.12	OA5669.16		OA5669.12	OA5669.16	OA5669.12	OA5669.16
6	4.8 ... 9.6	50	981	992	462	691	771	581	
12	9.6 ... 19.2	210	982	993	463	692	772	582	553
20	16.0 ... 32.0	580	987	998	468	697	777	587	558
24	19.2 ... 38.4	820	983	994	464	693	773	583	554
48	38.4 ... 76.8	3200	984	995	465	694	774	584	555
60	48.0 ... 96.0	5200	985	996	466	695	775	585	556
110	88.0 ... 176.0	16000	986	997	467	696	776	586	557
				1)	2)		1)		1)

1) = Pin configuration standard

2) = Pin configuration reverse

## Ordering Example

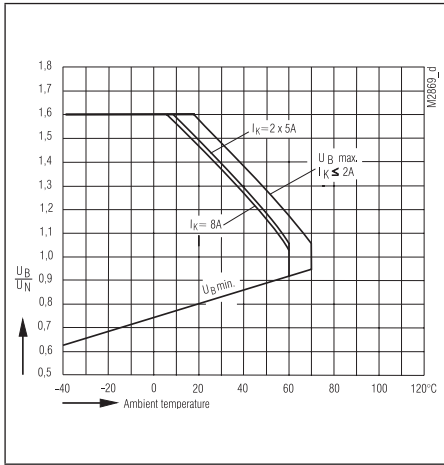
O\_ 5669.\_ \_ / \_ \_ / 61\*)



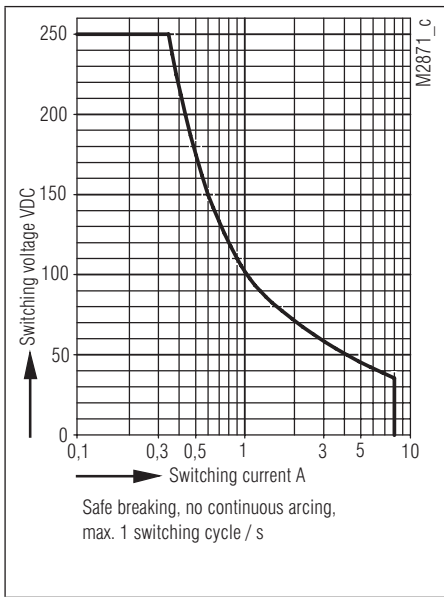
## Notes

For the use and processing of our PCB relays, please refer to the **application and processing instructions** at [www.dold.com](http://www.dold.com)

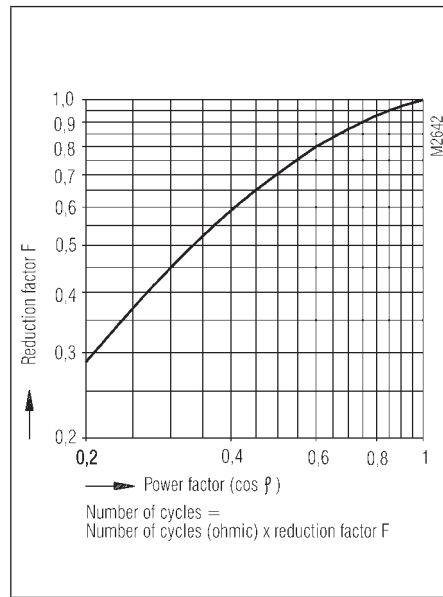
\*) /61 cURus approval



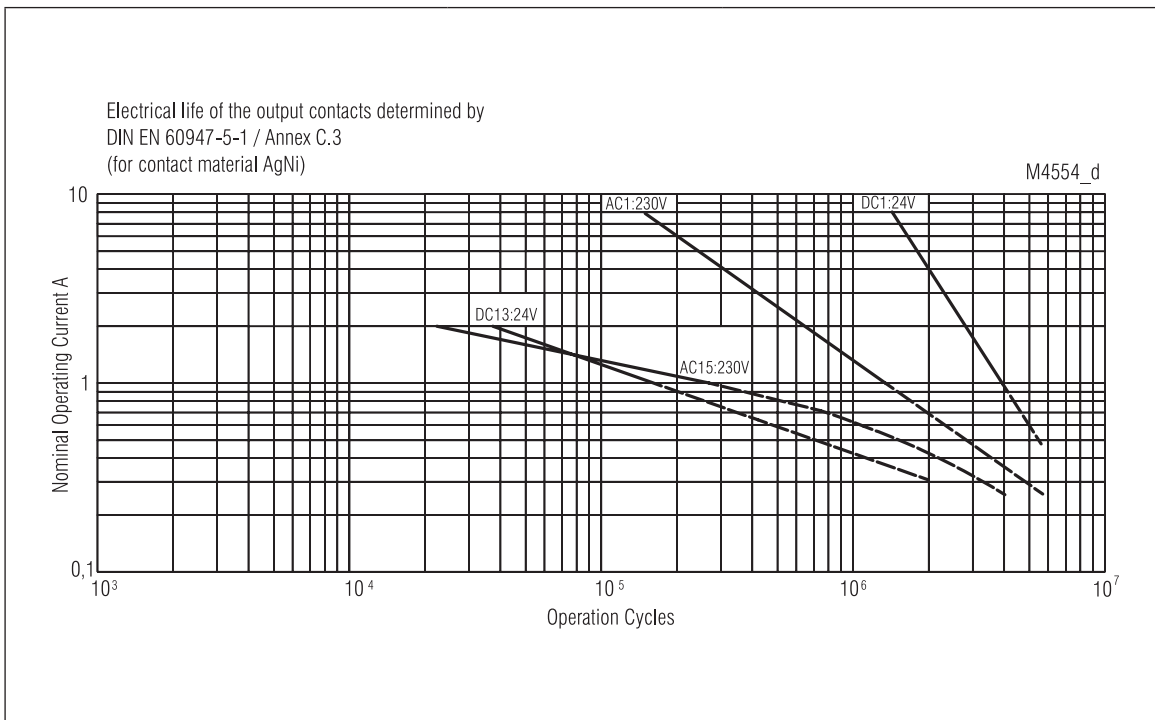
Operating voltage limit curve



Arc limit curve (at  $t_u = 20^\circ\text{C}$ )  
Contact material AgNi

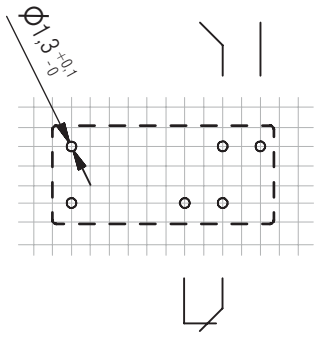


Reduction factor for reactive loads

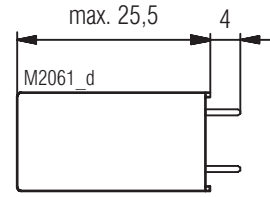
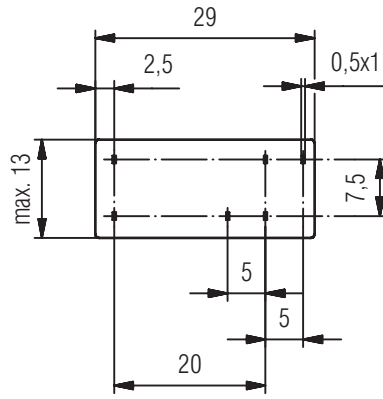


Electrical life for contact material AgNi

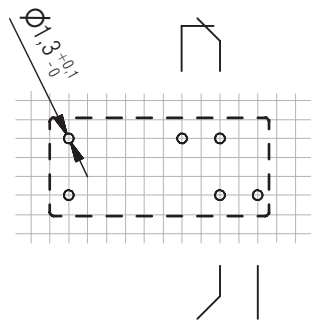
Drilling plan (solder side)



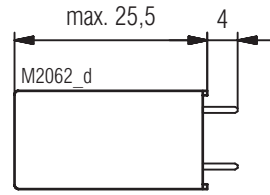
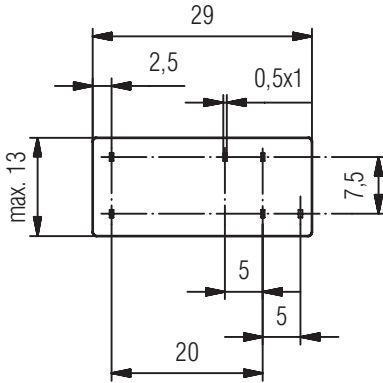
Pin configuration standard



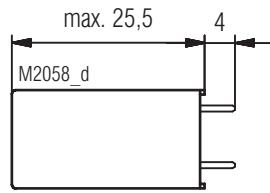
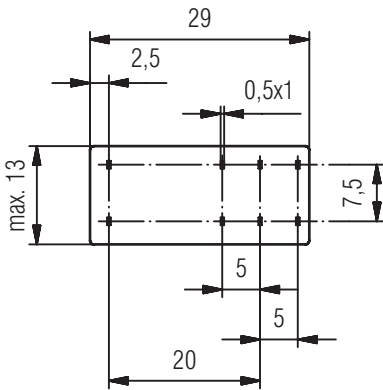
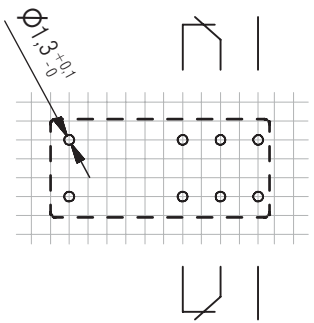
M2061\_d  
OA5669.16  
OW5669.16



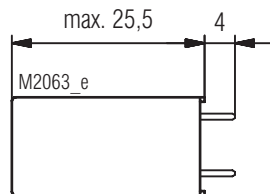
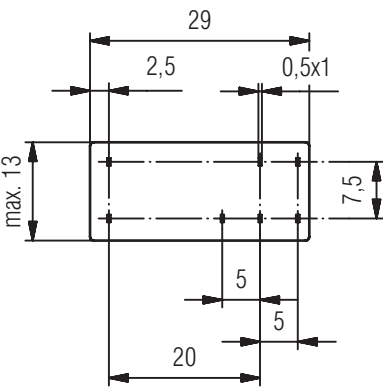
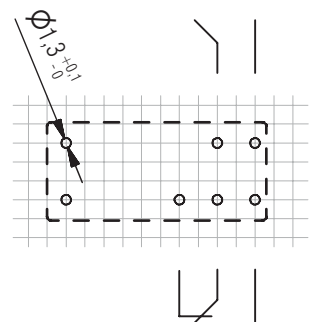
Pin configuration reverse



M2062\_d  
OA5669.16  
OW5669.16



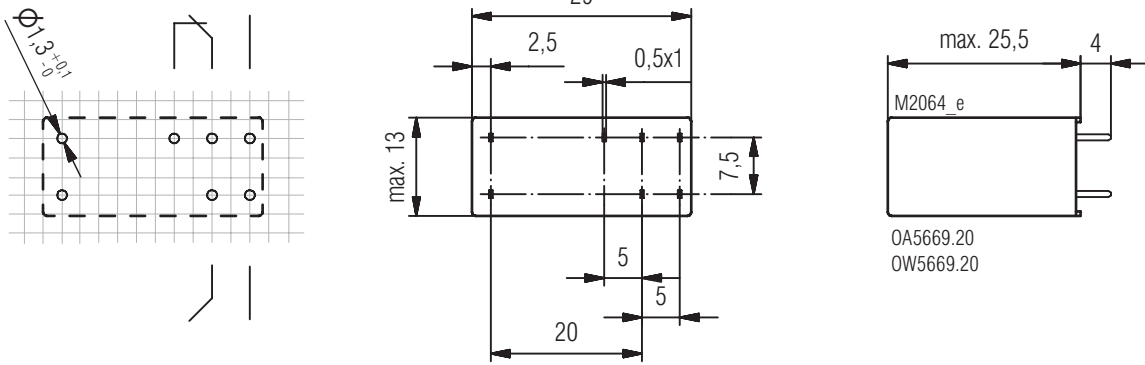
M2058\_d  
OA5669.12  
OW5669.12



M2063\_e  
OA5669.20  
OW5669.20

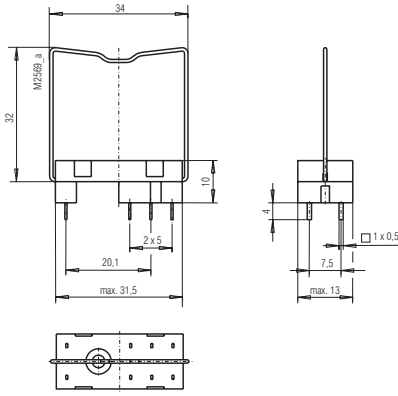
Connection for basic grid dimensions 2.5 mm as well as 2.54 mm according to IEC/EN 60097 and IEC 60326 average

Drilling plan (solder side)



Connection for basic grid divisions 2.5 mm as well as 2.54 mm according to IEC/EN 60097 and IEC 60326 average

## Relay Socket incl. Fixing Clip



### Relay socket ET 1415.021

Article number: 0034769

### Fixing clip (wire) ET 1415.025

Article number: 0034770

### Fixing clip (plastic) ET 1415.026

Article number: 0047726

**Temperature range:** - 40 ... + 85 °C

#### Clearance and creepage distance

Rated impulse voltage / degree of protection IEC 60664-1

Input / output: 5 kV / 3

Output / output: 4 kV / 3

Overvoltage category: III

**Weight:** Ca. 3,5 g

**Packing:** 100 pieces

#### Dimensions

**Width x height x depth:** See drawing

#### Function Modules

ET1415.913: DC 24 V, with free-wheel diode and green LED  
Article number: 0056828

ET1415.911: DC 24 V, with free-wheel diode and red LED  
Article number: 0055909

ET1415.912: AC/DC 24 V, with varistor and green LED  
Article number: 0055910

ET1415.924: DC 60 V, with free-wheel diode and red LED  
Article number: 0062552

Packing: 20 pieces

#### Optional



Mounting is possible on request.

For example:

HC 3098.12/983.44.13 DC 24 V

Article number: 0065544

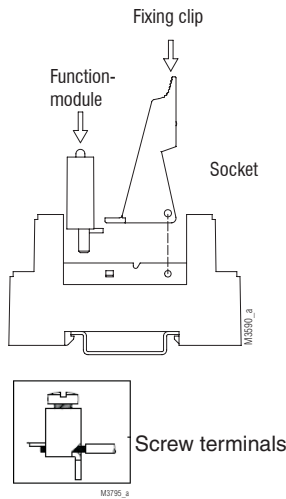
Consisting of:

ET 1415.044

ET 1415.913

OA 5669.12/983/61 DC 24 V

## Socet ET 1415.041 incl. Fixing Clip - Screw Terminals -



Article number: 0055571

**Temperature range:** - 25 ... + 85 °C

#### Clearance and creepage distance

Rated impulse voltage / degree of protection

Input / output: 6 kV / 2 IEC 60664-1

Output / output: 4 kV / 2 IEC 60664-1

Overvoltage category: III

**Degree of protection:** IP 20 IEC/EN 60529

#### Wire connection

Solid / stranded: 0.5 - 2.5 mm<sup>2</sup> (20-14 AWG)

Sleeved end: 0.14 - 2.5 mm<sup>2</sup> (26-14 AWG)

**Stripping length:** 7 mm

**Wire fixing:** Screw terminals

**Fixing torque:** Max. 0.8 Nm

**Mounting:** DIN-rail IEC/EN 60715

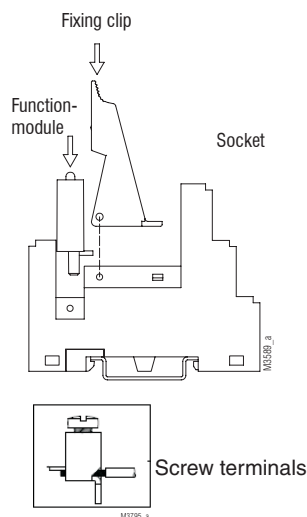
**Weight:** Approx. 38.5 g

**Packing:** 10 pieces

#### Dimensions

**Width x height x depth:** 15.8 x 75 x 69.0 mm

**Socet ET 1415.044 incl. Fixing Clip - Screw Terminals -**



- Incl. safe separation between coil and contacts according to DIN EN 60947-1, DIN EN 61140

Article number: 0059274

**Temperature range:** - 25 ... + 85 °C

**Clearance and creepage distance**

Rated impulse voltage / degree of protection

Input / output: 6 kV / 2 IEC 60664-1

Output / output: 4 kV / 2 IEC 60664-1

Overvoltage category: III

**Degree of protection:** IP 20 IEC/EN 60529

**Wire connection**

Solid / stranded: 0.5 - 2.5 mm<sup>2</sup> (20-14 AWG)

Sleeved end: 0.14 - 2.5 mm<sup>2</sup> (26-14 AWG)

**Stripping length** 7 mm

**Wire fixing:** Screw terminals

**Fixing torque:** Max. 0.8 Nm

**Mounting:** DIN-rail IEC/EN 60715

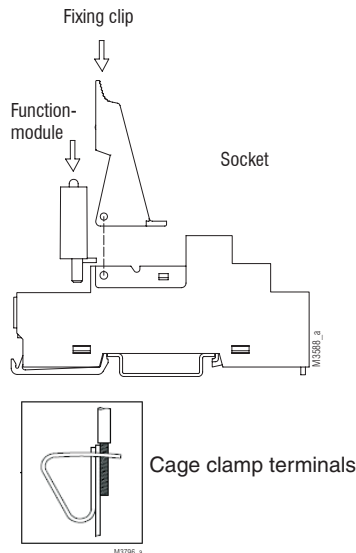
**Weight:** Approx. 43.5 g

**Packing:** 10 pieces

**Dimensions**

**Width x height x depth:** 15.8 x 75 x 75.0 mm

**Socet ET 1415.047 incl. Fixing Clip - Cage Clamp Terminals -**



Article number: 0059270

**Temperature range:** - 25 ... + 85 °C

**Clearance and creepage distance**

Rated impulse voltage / degree of protection

Input / output: 6 kV / 2 IEC 60664-1

Output / output: 4 kV / 2 IEC 60664-1

Overvoltage category: III

**Degree of protection:** IP 20 IEC/EN 60529

**Wire connection**

2 x Solid / stranded: 0,5 - 1,5 mm<sup>2</sup> (20-16 AWG)

2 x Sleeved end: 0,14 - 1,5 mm<sup>2</sup> (26-16 AWG)

**Stripping length** 11 mm

**Wire fixing:** Cage clamp terminals

**Mounting:** DIN-rail IEC/EN 60715

**Weight:** Approx. 42.0 g

**Packing:** 10 pieces

**Dimensions**

**Width x height x depth:** 15.8 x 97 x 75.5 mm

