

# JUMO AS

Street address: Solheimveien 50, 1470 Lørenskog , Norway  
 Delivery address: Solheimveien 50, 1470 Lørenskog , Norway  
 Postal address: Solheimveien 50, 1470 Lørenskog , Norway

Phone: +47 67 97 37 10  
 Fax: +47 67 97 37 11  
 e-mail: info.no@jumo.net  
 Internet: www.jumo.no



## Product data sheet

### JUMO MIDAS Pressure Transmitter

#### Product data sheet

40.1001

Sales No.

43006710

Order code

401001/000-459-405-502-20-601-61



|            |  |
|------------|--|
| 401001/000 | model<br>MIDAS; pressure transmitter                               |
| 459        | input<br>0...+10 bar g   |
| 405        | output<br>4 to 20 mA 2-wire  |
| 502        | process connection (not front flush)<br>G 1/4 to DIN EN 837        |
| 20; 601    | process connection material; seal material<br>stainless steel; FPM |
| 61         | electrical connection<br>with terminal box                         |

# Pressure transmitter

## JUMO MIDAS

### Type 401001

#### Brief description

Pressure transmitters are used for measuring the relative (gauge) pressure in liquids and gases. The pressure transmitter incorporates a thick-film strain gauge as a measuring device. The pressure sensor has an aluminium-oxide ( $Al_2O_3$ ) ceramic base material. The pressure is converted into an electrical signal.

#### Technical data

##### Reference conditions

to DIN 16 086 and IEC 770/5.3

##### Ranges

see order details

##### Overload limits

for ranges

0 – 40 bar 3 x full scale

ranges

0 – 60 to 0 – 100 bar 2 x full scale

##### Bursting pressure

ranges 0 – 40 bar  $\leq 5$  x full scale

ranges

0 – 60 to 0 – 100 bar 3 x full scale

##### Parts in contact with medium

standard: st. steel, Mat. Ref. 1.4305,  
( $Al_2O_3$ ) 96%

seal: FPM or FFPM  
or CR

##### Output

4 – 20 mA

2-wire burden  $\leq (U_B - 10 V) / 0.02A$

0.5 – 4.5 V burden  $\geq 20 k\Omega$

1 – (5)6 V burden  $\geq 10 k\Omega$

0 – 10 V burden  $\geq 10 k\Omega$

##### Burden error

< 0.5% max.

##### Zero offset

$\leq 0.3\%$  of full scale

##### Thermal hysteresis

$\leq \pm 0.8\%$  of full scale

##### Ambient temperature error

within range -20 to +85°C

(compensated temperature range)

zero:  $\leq 0.02\%/^{\circ}C$  typical,

$\leq 0.04\%/^{\circ}C$  max.

span:  $\leq 0.02\%/^{\circ}C$  typical,

$\leq 0.04\%/^{\circ}C$  max.

##### Deviation from characteristic

$\leq 0.5\%$  of full scale

(limit point adjustment)

##### Hysteresis

$\leq 0.2\%$  of full scale

##### Repeatability

$\leq 0.1\%$  of full scale

##### Response time

$\leq 3$  msec max.

##### Stability per year

$\leq 1\%$  of full scale

##### Supply

10 – 30 V DC (for output 4 – 20 mA  
and 1 – (5)6 V)

5 V DC (for output 0.5 – 4.5 V)

11.5 – 30 V DC (for output 0 – 10 V)

Ripple: the voltage spikes must not go  
above or below the values specified for the  
supply

max. current drawn: approx. 25 mA

##### Supply voltage error

$\leq 0.02\%$  per V

(nominal supply voltage 24 V DC)

ratiometric with supply 5 V DC ( $\pm 0.5$  V)

##### Permissible ambient temperature

for version with plug:

-20 to +125°C

for version with attached cable:

-20 to +100°C

##### Storage temperature

-40 to +125°C

for version with attached cable

-20 to +100°C

##### Permissible temperature of medium

-30 to +125°C

##### Electromagnetic compatibility (EMC)

to EN 61 326

##### Mechanical shock

(to IEC 68-2-27)

100 g/1 msec

##### Mechanical vibration

(to IEC 68-2-6)

20 g max. at 15 – 2000 Hz



Type 401001/000-xxx-xxx-xx-xxx-61



Type 401001/000-xxx-xxx-xx-xxx-36

Postal address: 36035 Fulda, Germany  
 Phone: +49 661 6003-0  
 Fax: +49 661 6003-607  
 e-mail: mail@jumo.net  
 Internet: www.jumo.net

Temple Bank, Riverway  
 Harlow, Essex CM 20 2TT, UK  
 Phone: +44 1279 635533  
 Fax: +44 1279 635262  
 e-mail: sales@jumo.co.uk  
 Internet: www.jumo.co.uk

Sanastota, NJ 08002, USA  
 Phone: 315-697-JUMO  
 1-800-554-JUMO  
 Fax: 315-697-5867  
 e-mail: info@jumo.us  
 Internet: www.jumo.us



**Protection**

with terminal box  
 IP65 to EN 60 529  
 (diameter of connecting cable  
 5 mm min., 7 mm max. )

with connecting cable or  
 circular connector M 12 x 1  
 IP67 to EN 60 529

**Housing**

stainless steel, Mat. Ref. 1.4305  
 EPDM

**Pressure connection**

see order details;  
 other connections on request

**Electrical connection**

see order details  
 terminal box to DIN 43 650, style A,  
 conductor cross-section up to 1.5 mm<sup>2</sup>  
 or  
 attached 4-core PVC cable, length 2 m,  
 other lengths on request  
 or  
 4-pole circular connector, M12x1

**Nominal position**

any

**Weight**

100 g

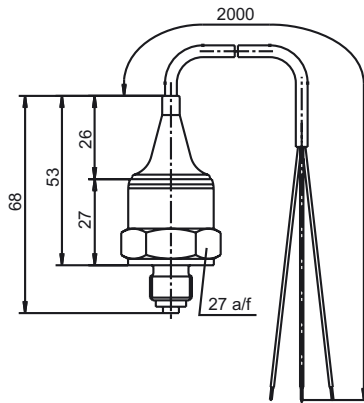
**Electrical connection**

| Connection   |  | Terminals          |              |                     |               |          |
|--|--|--------------------|--------------|---------------------|---------------|----------|
|  |  | Terminal box<br>61 | Cable<br>11  | M12x1<br>36         | Bayonet<br>53 |          |
| Supply<br>10 – 30 V DC<br>11.5 – 30 V DC<br>5 V DC | (with output)<br>(1 – (5)6 V)<br>(0 – 10 V)<br>(0.5 – 4.5 V) |                    | 1 L+<br>2 L- | white +<br>brown -  | 1+<br>2-      | 1+<br>2- |
| Output<br>1 – (5)6 V<br>0 – 10 V<br>0.5 – 4.5 V    |  |                    | 2 -<br>3 +   | brown -<br>yellow + | 2-<br>3+      | 2-<br>3+ |
| Supply<br>10 – 30 V DC                             | (with output)<br>(4 – 20 mA,<br>2-wire)                      |                    | 1 L+<br>2 L- | white +<br>brown -  | 1+<br>3-      | 1+<br>3- |
| Output 4 – 20 mA, 2-wire                           |  |                    | 1 +<br>2 -   | white<br>brown      | 1+<br>3-      | 1+<br>3- |

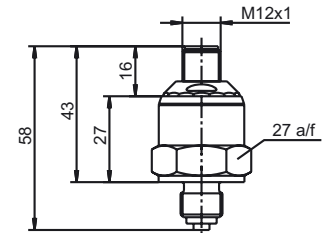
proportional current 4 – 20 mA  
in supply

## Dimensions

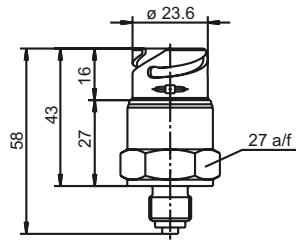
### Electrical connections



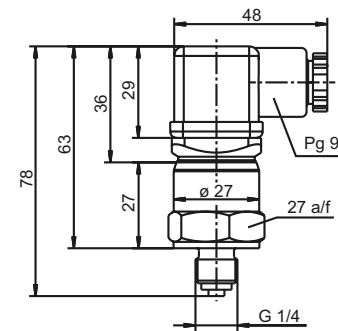
11



36

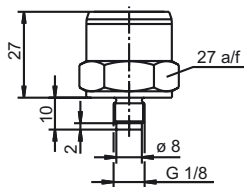


53

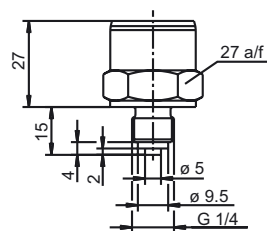


61

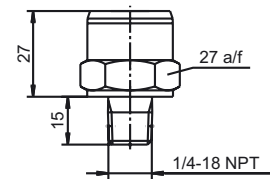
### Process connections



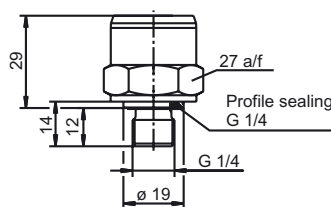
501



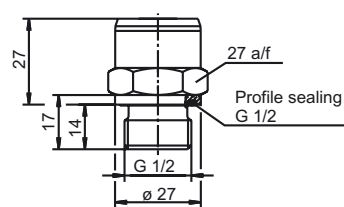
502



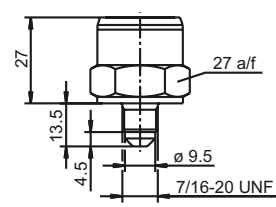
511



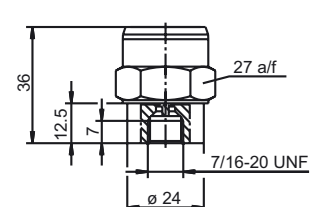
521



523



562



563



## Order details

- 401001 **(1) Basic type**  
Pressure transmitter JUMO MIDAS
- (2) Basic type extensions**  
000 none  
999 special version
- (3) Input**  
455 0 ... 1,6 bar gauge pressure  
456 0 ... 2,5 bar gauge pressure  
457 0 ... 4 bar gauge pressure  
458 0 ... 6 bar gauge pressure  
459 0 ... 10 bar gauge pressure  
460 0 ... 16 bar gauge pressure  
461 0 ... 25 bar gauge pressure  
462 0 ... 40 bar gauge pressure  
463 0 ... 60 bar gauge pressure  
464 0 ... 100 bar gauge pressure  
479 -1 ... 0,6 bar gauge pressure  
480 -1 ... 1,5 bar gauge pressure  
481 -1 ... 3 bar gauge pressure  
482 -1 ... 5 bar gauge pressure  
483 -1 ... 9 bar gauge pressure  
484 -1 ... 15 bar gauge pressure  
485 -1 ... 24 bar gauge pressure  
999 Sondermessbereich
- (4) Output**  
405 4 — 20 mA 2-wire  
412 0.5 — 4.5 V 3-wire  
415 0 — 10 V 3-wire  
418 1 — 5 V 3-wire  
420 1 — 6 V 3-wire
- (5) Process connection (not front-flush)**  
501 G 1/8 to EN 837  
502 G 1/4 to EN 837  
511 1/4-18 NPT to EN 837  
521 G 1/4 to DIN 3852 T11  
523 G 1/2 to DIN 3852 T11  
562 7/16 UNF  
563 7/16 internal UNF, with valve seating
- (6) Material of process connection**  
20 stainless steel  
46 brass (on request)
- (7) Material for seal**  
601 FPM  
602 CR  
604 FFPM<sup>1</sup>  
999 special material
- (8) Electrical connection**  
11 attached cable 2 m  
36 circular connector M 12 x 1  
61 terminal box
- (9) Extra Codes**  
000 none  
591 throttle in pressure duct  
624 free from oil and grease

<sup>1</sup> Material properties are similar to PTFE.

Postal address: 36035 Fulda, Germany  
Phone: +49 661 6003-0  
Fax: +49 661 6003-607  
e-mail: mail@jumo.net  
Internet: www.jumo.net

Temple Bank, Riverway  
Harlow, Essex CM 20 2TT, UK  
Phone: +44 1279 635533  
Fax: +44 1279 635262  
e-mail: sales@jumo.co.uk  
Internet: www.jumo.co.uk

Danabata, N 1 15002, USA  
Phone: 315-697-JUMO  
1-800-554-JUMO  
Fax: 315-697-5867  
e-mail: info@jumo.us  
Internet: www.jumo.us



|               |                      |     |                      |     |                      |     |                      |     |                      |   |                      |   |                      |   |                      |
|---------------|----------------------|-----|----------------------|-----|----------------------|-----|----------------------|-----|----------------------|---|----------------------|---|----------------------|---|----------------------|
|               | (1)                  | (2) | (3)                  | (4) | (5)                  | (6) | (7)                  | (8) | (9)                  |   |                      |   |                      |   |                      |
| Order code    | <input type="text"/> | /   | <input type="text"/> | -   | <input type="text"/> | -   | <input type="text"/> | -   | <input type="text"/> | - | <input type="text"/> | - | <input type="text"/> | / | <input type="text"/> |
| Order example | 401001               | /   | 000                  | -   | 459                  | -   | 405                  | -   | 523                  | - | 20                   | - | 601                  | - | 11 / 000             |

## Accessories

### Designation

4-pole straight socket M12x1 with 2 m PVC cable

4-pole angled socket M12x1, with 2m PVC cable

### Sales No.

40/00404585

40/00409334

# Pressure transmitter

## JUMO MIDAS

### Type 401001

#### Brief description

Pressure transmitters are used for measuring the relative (gauge) pressure in liquids and gases. The pressure transmitter incorporates a thick-film strain gauge as a measuring device. The pressure sensor has an aluminium-oxide ( $Al_2O_3$ ) ceramic base material. The pressure is converted into an electrical signal.

#### Technical data

##### Reference conditions

to DIN 16 086 and IEC 770/5.3

##### Ranges

see order details

##### Overload limits

for ranges

0 – 40 bar 3 x full scale

ranges

0 – 60 to 0 – 100 bar 2 x full scale

##### Bursting pressure

ranges 0 – 40 bar  $\leq 5$  x full scale

ranges

0 – 60 to 0 – 100 bar 3 x full scale

##### Parts in contact with medium

standard: st. steel, Mat. Ref. 1.4305,  
( $Al_2O_3$ ) 96%

seal: FPM or FFPM  
or CR

##### Output

4 – 20 mA

2-wire burden  $\leq (U_B - 10 V) / 0.02 A$

0.5 – 4.5 V burden  $\geq 20 k\Omega$

1 – (5)6 V burden  $\geq 10 k\Omega$

0 – 10 V burden  $\geq 10 k\Omega$

##### Burden error

$< 0.5\%$  max.

##### Zero offset

$\leq 0.3\%$  of full scale

##### Thermal hysteresis

$\leq \pm 0.8\%$  of full scale

##### Ambient temperature error

within range  $-20$  to  $+85^\circ C$

(compensated temperature range)

zero:  $\leq 0.02\%/^\circ C$  typical,

$\leq 0.04\%/^\circ C$  max.

span:  $\leq 0.02\%/^\circ C$  typical,

$\leq 0.04\%/^\circ C$  max.

##### Deviation from characteristic

$\leq 0.5\%$  of full scale

(limit point adjustment)

##### Hysteresis

$\leq 0.2\%$  of full scale

##### Repeatability

$\leq 0.1\%$  of full scale

##### Response time

$\leq 3$  msec max.

##### Stability per year

$\leq 1\%$  of full scale

##### Supply

10 – 30 V DC (for output 4 – 20 mA  
and 1 – (5)6 V)

5 V DC (for output 0.5 – 4.5 V)

11.5 – 30 V DC (for output 0 – 10 V)

Ripple: the voltage spikes must not go  
above or below the values specified for the  
supply

max. current drawn: approx. 25 mA

##### Supply voltage error

$\leq 0.02\%$  per V

(nominal supply voltage 24 V DC)

ratiometric with supply 5 V DC ( $\pm 0.5$  V)

##### Permissible ambient temperature

for version with plug:

$-20$  to  $+125^\circ C$

for version with attached cable:

$-20$  to  $+100^\circ C$

##### Storage temperature

$-40$  to  $+125^\circ C$

for version with attached cable

$-20$  to  $+100^\circ C$

##### Permissible temperature of medium

$-30$  to  $+125^\circ C$

##### Electromagnetic compatibility (EMC)

to EN 61 326

##### Mechanical shock

(to IEC 68-2-27)

100 g/1 msec

##### Mechanical vibration

(to IEC 68-2-6)

20 g max. at 15 – 2000 Hz



Type 401001/000-xxx-xxx-xx-xxx-61



Type 401001/000-xxx-xxx-xx-xxx-36

Postal address: 36035 Fulda, Germany  
 Phone: +49 661 6003-0  
 Fax: +49 661 6003-607  
 e-mail: mail@jumo.net  
 Internet: www.jumo.net

Temple Bank, Riverway  
 Harlow, Essex CM 20 2TT, UK  
 Phone: +44 1279 635533  
 Fax: +44 1279 635262  
 e-mail: sales@jumo.co.uk  
 Internet: www.jumo.co.uk

Sanastota, NJ 15002, USA  
 Phone: 315-697-JUMO  
 1-800-554-JUMO  
 Fax: 315-697-5867  
 e-mail: info@jumo.us  
 Internet: www.jumo.us



**Protection**

with terminal box  
 IP65 to EN 60 529  
 (diameter of connecting cable  
 5 mm min., 7 mm max. )

with connecting cable or  
 circular connector M 12 x 1  
 IP67 to EN 60 529

**Housing**

stainless steel, Mat. Ref. 1.4305  
 EPDM

**Pressure connection**

see order details;  
 other connections on request

**Electrical connection**

see order details  
 terminal box to DIN 43 650, style A,  
 conductor cross-section up to 1.5 mm<sup>2</sup>  
 or  
 attached 4-core PVC cable, length 2 m,  
 other lengths on request  
 or  
 4-pole circular connector, M12x1

**Nominal position**

any

**Weight**

100 g

**Electrical connection**

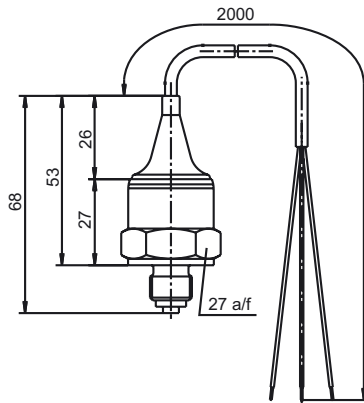
| Connection   |  | Terminals          |              |                     |               |          |
|--|--|--------------------|--------------|---------------------|---------------|----------|
|  |  | Terminal box<br>61 | Cable<br>11  | M12x1<br>36         | Bayonet<br>53 |          |
| Supply<br>10 – 30 V DC<br>11.5 – 30 V DC<br>5 V DC | (with output)<br>(1 – (5)6 V)<br>(0 – 10 V)<br>(0.5 – 4.5 V) |                    | 1 L+<br>2 L- | white +<br>brown -  | 1+<br>2-      | 1+<br>2- |
| Output<br>1 – (5)6 V<br>0 – 10 V<br>0.5 – 4.5 V    |  |                    | 2 -<br>3 +   | brown -<br>yellow + | 2-<br>3+      | 2-<br>3+ |
| Supply<br>10 – 30 V DC                             | (with output)<br>(4 – 20 mA,<br>2-wire)                      |                    | 1 L+<br>2 L- | white +<br>brown -  | 1+<br>3-      | 1+<br>3- |
| Output 4 – 20 mA, 2-wire                           |  |                    | 1 +<br>2 -   | white<br>brown      | 1+<br>3-      | 1+<br>3- |

proportional current 4 – 20 mA  
in supply

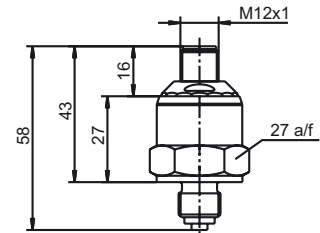


## Dimensions

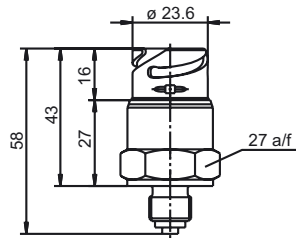
### Electrical connections



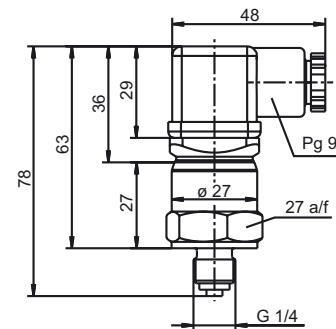
11



36

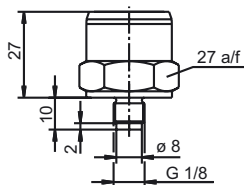


53

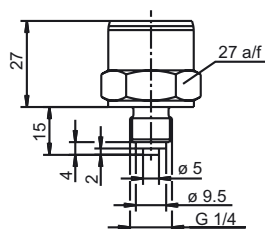


61

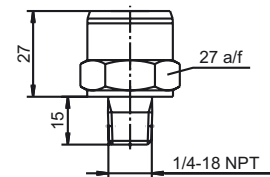
### Process connections



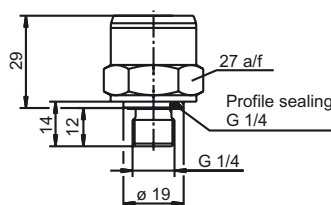
501



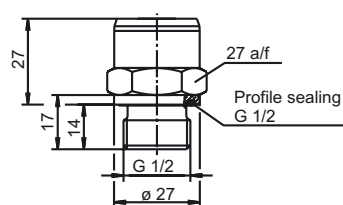
502



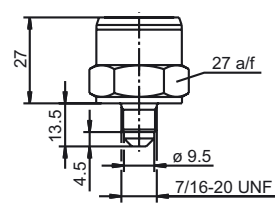
511



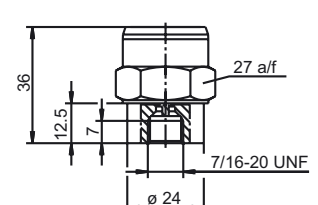
521



523



562



563



## Order details

- 401001 **(1) Basic type**  
Pressure transmitter JUMO MIDAS
- (2) Basic type extensions**  
000 none  
999 special version
- (3) Input**  
455 0 ... 1,6 bar gauge pressure  
456 0 ... 2,5 bar gauge pressure  
457 0 ... 4 bar gauge pressure  
458 0 ... 6 bar gauge pressure  
459 0 ... 10 bar gauge pressure  
460 0 ... 16 bar gauge pressure  
461 0 ... 25 bar gauge pressure  
462 0 ... 40 bar gauge pressure  
463 0 ... 60 bar gauge pressure  
464 0 ... 100 bar gauge pressure  
479 -1 ... 0,6 bar gauge pressure  
480 -1 ... 1,5 bar gauge pressure  
481 -1 ... 3 bar gauge pressure  
482 -1 ... 5 bar gauge pressure  
483 -1 ... 9 bar gauge pressure  
484 -1 ... 15 bar gauge pressure  
485 -1 ... 24 bar gauge pressure  
999 Sondermessbereich
- (4) Output**  
405 4 — 20 mA 2-wire  
412 0.5 — 4.5 V 3-wire  
415 0 — 10 V 3-wire  
418 1 — 5 V 3-wire  
420 1 — 6 V 3-wire
- (5) Process connection (not front-flush)**  
501 G 1/8 to EN 837  
502 G 1/4 to EN 837  
511 1/4-18 NPT to EN 837  
521 G 1/4 to DIN 3852 T11  
523 G 1/2 to DIN 3852 T11  
562 7/16 UNF  
563 7/16 internal UNF, with valve seating
- (6) Material of process connection**  
20 stainless steel  
46 brass (on request)
- (7) Material for seal**  
601 FPM  
602 CR  
604 FFPM<sup>1</sup>  
999 special material
- (8) Electrical connection**  
11 attached cable 2 m  
36 circular connector M 12 x 1  
61 terminal box
- (9) Extra Codes**  
000 none  
591 throttle in pressure duct  
624 free from oil and grease

<sup>1</sup> Material properties are similar to PTFE.

Postal address: 36035 Fulda, Germany  
Phone: +49 661 6003-0  
Fax: +49 661 6003-607  
e-mail: mail@jumo.net  
Internet: www.jumo.net

Temple Bar, Riverway  
Harlow, Essex CM 20 2TT, UK  
Phone: +44 1279 635533  
Fax: +44 1279 635262  
e-mail: sales@jumo.co.uk  
Internet: www.jumo.co.uk

Danabata, N 1 15002, USA  
Phone: 315-697-JUMO  
1-800-554-JUMO  
Fax: 315-697-5867  
e-mail: info@jumo.us  
Internet: www.jumo.us



|               |                      |     |                      |     |                      |     |                      |     |                      |   |                      |   |                      |   |                      |
|---------------|----------------------|-----|----------------------|-----|----------------------|-----|----------------------|-----|----------------------|---|----------------------|---|----------------------|---|----------------------|
|               | (1)                  | (2) | (3)                  | (4) | (5)                  | (6) | (7)                  | (8) | (9)                  |   |                      |   |                      |   |                      |
| Order code    | <input type="text"/> | /   | <input type="text"/> | -   | <input type="text"/> | -   | <input type="text"/> | -   | <input type="text"/> | - | <input type="text"/> | - | <input type="text"/> | / | <input type="text"/> |
| Order example | 401001               | /   | 000                  | -   | 459                  | -   | 405                  | -   | 523                  | - | 20                   | - | 601                  | - | 11 / 000             |

## Accessories

### Designation

4-pole straight socket M12x1 with 2 m PVC cable

4-pole angled socket M12x1, with 2m PVC cable

### Sales No.

40/00404585

40/00409334

## **X-ON Electronics**

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [jumo](#) manufacturer:*

Other Similar products are found below :

[60/60000332](#)