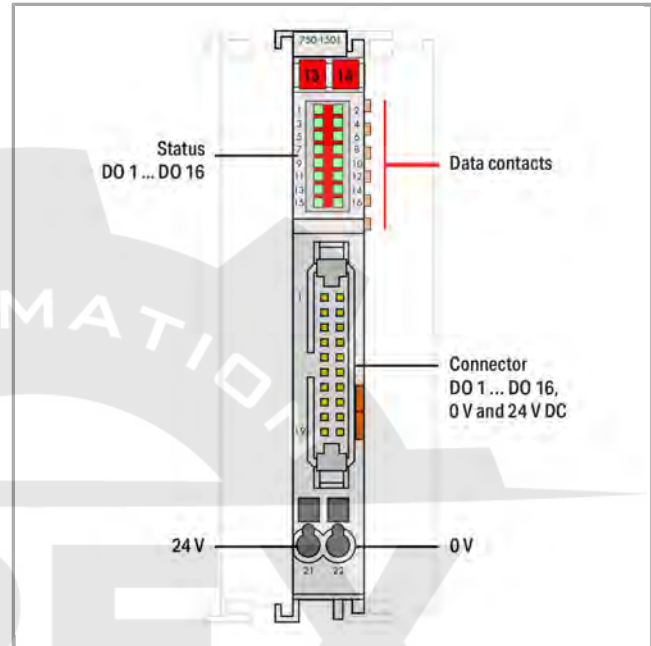
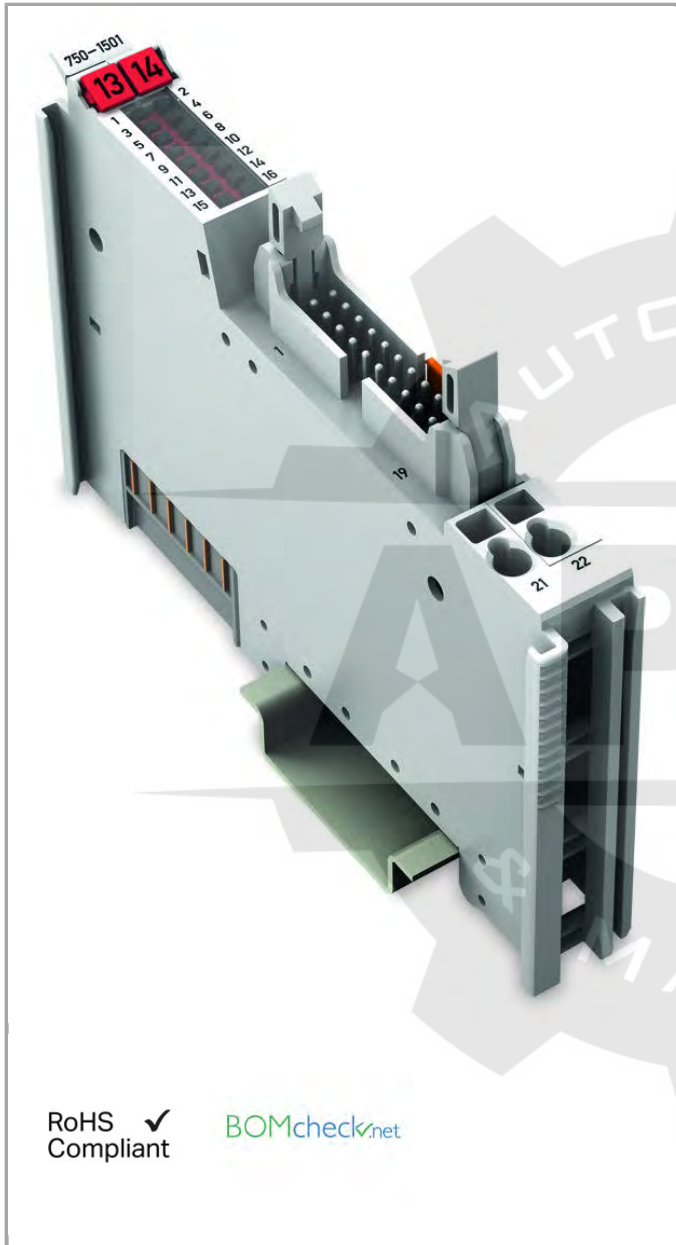


# Data sheet | Item number: 750-1501

16-channel digital output; 24 VDC; 0.5 A; Low-side switching; Ribbon cable

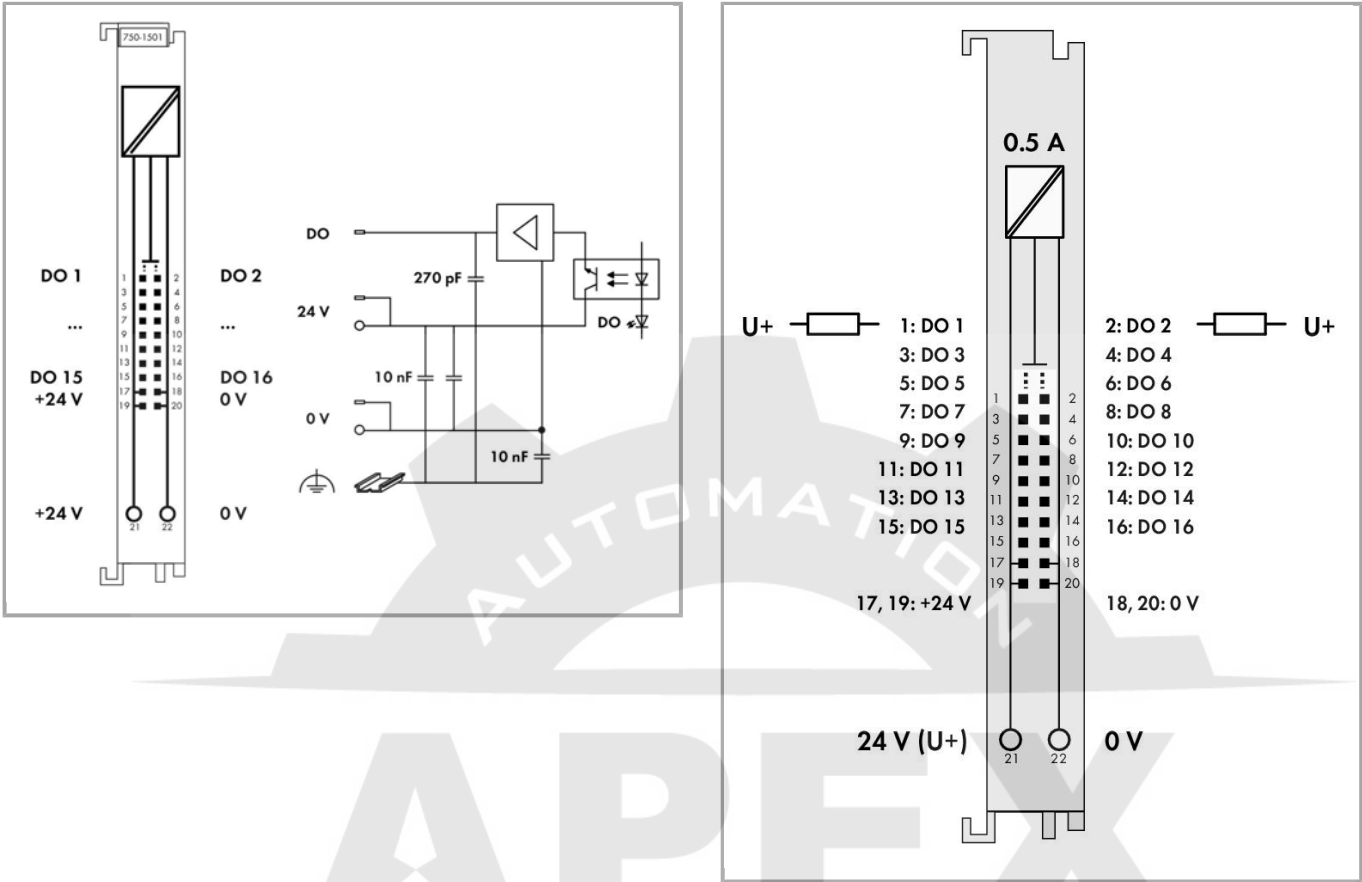


750-1501



RoHS Compliant

[BOMcheck.net](https://www.bomcheck.net)



Item description

The digital output module provides sixteen channels in a width of just 12 mm (0.47 inch).

It transmits binary control signals from the automation device to connected actuators (e.g., magnetic valves, contactors, transmitters, relays or other electrical loads).

The module connects electronic modules via a 20-pole flat cable.

The 24V power is fed to the electronic modules via two CAGE CLAMP® terminals.

A green LED indicates the switched status of each channel.

Field and system levels are electrically isolated.

Data  
Technical Data

|                                   |                    |
|-----------------------------------|--------------------|
| Number of digital outputs         | 16                 |
| Total number of channels (module) | 16                 |
| Type of signal                    | Voltage            |
| Actuator connection               | 16 x (1-conductor) |
| Output characteristic             | Low-side switching |

|                                                                  |                                                                    |
|------------------------------------------------------------------|--------------------------------------------------------------------|
| Output current per channel                                       | 0.5 A                                                              |
| Output current                                                   | short-circuit-protected                                            |
| Switching frequency max.                                         | 1 kHz                                                              |
| Type of load                                                     | resistive, inductive, lamps                                        |
| Switching frequency max.                                         | 1000 Hz                                                            |
| Max output data width (internal)                                 | 16 Bit                                                             |
| System supply voltage                                            | DC 5 V; via data contacts                                          |
| Current consumption, system supply (5 V)                         | 40 mA                                                              |
| System and sensor supply voltage                                 | )                                                                  |
| Field supply voltage                                             | DC 24 V (-25 ... +30 %); via wiring level (CAGE CLAMP® connection) |
| Current consumption, field supply (module with no external load) | 11 mA                                                              |
| Isolation field – system                                         | 500 VAC (1 min)                                                    |
| Indicators                                                       | LED (1-16) green: Status DO 1 ... DO 16                            |

### Connection data

|                                     |                                              |
|-------------------------------------|----------------------------------------------|
| Connection technology: In-/Outputs  | 20 x 20-pin male connector                   |
| Connection technology: field supply | 2 x CAGE CLAMP®                              |
| Connection type (1)                 | Inputs/Outputs                               |
| Connection type (2)                 | Feldversorgung                               |
| Solid conductor (2)                 | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG |
| Strip length (2)                    | 8 ... 9 mm / 0.31 ... 0.35 inch              |

### Geometrical Data

|                                       |                      |
|---------------------------------------|----------------------|
| Width                                 | 12 mm / 0.472 inch   |
| Height                                | 74.1 mm / 2.917 inch |
| Height from upper-edge of DIN-35 rail | 66.9 mm / 2.634 inch |
| Depth                                 | 100 mm / 3.937 inch  |

### Mechanical data

|                  |             |
|------------------|-------------|
| Type of mounting | DIN-35 rail |
|------------------|-------------|

### Material Data

|                    |                              |
|--------------------|------------------------------|
| Color              | light gray                   |
| Housing material   | Polycarbonate, polyamide 6.6 |
| Weight             | 42.5 g                       |
| Conformity marking | 1                            |

### Environmental Requirements

|                                         |             |
|-----------------------------------------|-------------|
| Surrounding air (operating) temperature | 0 ... 55 °C |
|-----------------------------------------|-------------|

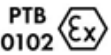
|                                                                                    |                                           |
|------------------------------------------------------------------------------------|-------------------------------------------|
| Surrounding air (storage) temperature                                              | -40 ... 85 °C                             |
| Protection class                                                                   | IP20                                      |
| Degree of pollution (5)                                                            | 2 per IEC 61131-2                         |
| Operating altitude                                                                 | 0 ... 2000 m                              |
| Mounting position                                                                  | horizontal (standing/lying) or vertical   |
| Relative air humidity (no condensation)                                            | 95 %                                      |
| Vibration resistance                                                               | 4g per IEC 60068-2-6                      |
| Shock resistance                                                                   | 15g per IEC 60068-2-27                    |
| EMC immunity to interference                                                       | acc. to EN 61000-6-2, marine applications |
| EMC emission of interference                                                       | acc. to EN 61000-6-3, marine applications |
| Exposure to pollutants                                                             | Per IEC 60068-2-42 and IEC 60068-2-43     |
| Permissible H <sub>2</sub> S contaminant concentration at a relative humidity 75 % | 10 ppm                                    |
| Permissible SO <sub>2</sub> contaminant concentration at a relative humidity 75 %  | 25 ppm                                    |

## Commercial data

|                    |                 |
|--------------------|-----------------|
| Product Group      | 15 (Remote I/O) |
| Country of origin  | DE              |
| GTIN               | 4045454898274   |
| Customs Tariff No. | 85371098990     |

## Approvals / Certificates

### Ex-Approvals

| Logo                                                                               | Approval                                                   | Additional Approval Text | Certificate name                  |
|------------------------------------------------------------------------------------|------------------------------------------------------------|--------------------------|-----------------------------------|
|  | ATEX<br>TUEV Nord Cert GmbH                                | EN 60079-0               | TÜV 07<br>ATEX<br>554086 X<br>en. |
|  | TUEV Nord<br>TUEV Nord Cert GmbH                           | IEC 60079-0              | IECEX<br>TUN<br>09.0001 X         |
|  | UL<br>Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS) | ANSI/ISA 12.12.01        | E198726<br>Sec.1                  |

### Country specific Approvals

| Logo | Approval | Additional Approval Text | Certificate name |
|------|----------|--------------------------|------------------|
|      | KC       | Article 58-2, Clause 3   | MSIP-            |



National Radio Research Agency

REM-W43-  
DOM750

#### Ship Approvals

| Logo                                                                               | Approval                                                | Additional Approval Text | Certificate name      |
|------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------|-----------------------|
|    | <b>ABS</b><br>American Bureau of Shipping               | -                        | 19-<br>HG1821926      |
|    | <b>DNV GL</b><br>Det Norske Veritas, Germanischer Lloyd | -                        | TAA0000194            |
|    | <b>GL</b><br>Germanischer Lloyd                         | -                        | 11 631 - 10<br>HH     |
|   | <b>KR</b><br>Korean Register of Shipping                | -                        | HMB05880-<br>AC001    |
|  | <b>LR</b><br>Lloyds Register                            | -                        | 02/20026 (E5)         |
|  | <b>NK</b><br>Nippon Kaiji Kyokai                        | -                        | TA17255M              |
|  | <b>PRS</b><br>Polski Rejestr Statków                    | -                        | TE/2236<br>/880590/19 |
|  | <b>RINA</b><br>RINA Germany GmbH                        | -                        | ELE134212XG           |

#### UL-Approvals

| Logo                                                                               | Approval                                                            | Additional Approval Text | Certificate name |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------|--------------------------|------------------|
|  | <b>UL</b><br>UL International Netherlands B.V. (ORDINARY LOCATIONS) | UL 508                   | E175199<br>Sec.1 |

## Compatible products

### shield connection

|                                                                                    |                                                                                                               |         |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------|
|    | <b>Item no.: 790-108</b><br>Shield clamping saddle; 11 mm wide; diameter of compatible conductor              | 790-108 |
|    | <b>Item no.: 790-116</b><br>Shield clamping saddle; 19 mm wide; diameter of compatible conductor; 7 ... 16 mm | 790-116 |
|    | <b>Item no.: 790-124</b><br>Shield clamping saddle; 27 mm wide; diameter of compatible conductor; 6 ... 24 mm | 790-124 |
|    | <b>Item no.: 790-140</b><br>Shield clamping saddle; diameter of compatible conductor                          | 790-140 |
|    | <b>Item no.: 790-208</b><br>Shield clamping saddle; 12.4 mm wide; 3 ... 8 mm                                  | 790-208 |
|   | <b>Item no.: 790-216</b><br>Shield clamping saddle; 21.8 mm wide; 6 ... 16 mm                                 | 790-216 |
|  | <b>Item no.: 790-220</b><br>Shield clamping saddle; 30 mm wide; 6 ... 20 mm                                   | 790-220 |

### system box

|                                                                                    |                                                                                                                                     |         |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------|
|  | <b>Item no.: 850-804</b><br>IP65 enclosure; Stainless steel; WxHxD (400x123x200 mm); 4 x M20, 16 x M16, 28 x M12 cable grip         | 850-804 |
|  | <b>Item no.: 850-804/000-001</b><br>IP65 enclosure; Stainless steel; WxHxD (400x123x200 mm); 2 x M20, 13 x M16, 32 x M12 cable grip | 850-804 |
|  | <b>Item no.: 850-805</b><br>IP65 enclosure; Stainless steel; WxHxD (600x123x200 mm); 4 x M20, 19 x M16, 67 x M12 cable grip         | 850-805 |
|  | <b>Item no.: 850-814/002-000</b><br>IP65 enclosure; Sheet steel (RAL 7035); WxHxD (200x120x200 mm); without flange plate            | 850-814 |
|  | <b>Item no.: 850-815/002-000</b><br>IP65 enclosure; Sheet steel (RAL 7035); WxHxD (300x120x200 mm); without flange plate            | 850-815 |
|  | <b>Item no.: 850-816/002-000</b><br>IP65 enclosure; Sheet steel (RAL 7035); WxHxD (400x120x200 mm); without flange plate            | 850-816 |
|  | <b>Item no.: 850-817/002-000</b><br>IP65 enclosure; Sheet steel (RAL 7035); WxHxD (600x120x200 mm); without flange plate            | 850-817 |

|                                                                                    |                                                                                                                                          |                      |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
|    | <b>Item no.: 850-825</b><br>IP65 enclosure; Aluminium (RAL 7032); WxHxD (160x100x160 mm); 9 x M12, 4 x M20                               | 850-825              |
|    | <b>Item no.: 850-826</b><br>IP65 enclosure; Aluminium (RAL 7032); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip          | 850-826              |
|    | <b>Item no.: 850-826/002-000</b><br>IP65 enclosure; Aluminium (RAL 7035); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip  | 850-826<br>/002-000  |
|    | <b>Item no.: 850-827</b><br>IP65 enclosure; Aluminium (RAL 7032); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip          | 850-827              |
|    | <b>Item no.: 850-827/002-000</b><br>IP65 enclosure; Aluminium (RAL 7035); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip  | 850-827<br>/002-000  |
|    | <b>Item no.: 850-828</b><br>IP65 enclosure; Aluminium (RAL 7032); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip         | 850-828              |
|    | <b>Item no.: 850-828/002-000</b><br>IP65 enclosure; Aluminium (RAL 7035); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip | 850-828<br>/002-000  |
|    | <b>Item no.: 850-834</b><br>IP65 enclosure; Polyester (RAL 7032); WxHxD (164x100x164 mm); 9 x M12, 4 x M20                               | 850-834              |
|  | <b>Item no.: 850-835</b><br>IP65 enclosure; Polyester (RAL 7032); WxHxD (244x100x164 mm); 4 x M20, 4 x M16, 14 x M12 cable grip          | 850-835              |
|  | <b>Item no.: 850-836</b><br>IP65 enclosure; Polyester (RAL 7032); WxHxD (324x100x164 mm); 4 x M20, 8 x M16, 17 x M12 cable grip          | 850-836              |
| <b>Marking accessories</b>                                                         |                                                                                                                                          |                      |
|  | <b>Item no.: 2009-145</b><br>Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type                    | 2009-145             |
|  | <b>Item no.: 2009-145/000-002</b><br>Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type            | 2009-145<br>/000-002 |
|  | <b>Item no.: 2009-145/000-005</b><br>Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type            | 2009-145<br>/000-005 |
|  | <b>Item no.: 2009-145/000-006</b><br>Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type            | 2009-145<br>/000-006 |
|  | <b>Item no.: 2009-145/000-007</b><br>Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type            | 2009-145<br>/000-007 |
|  | <b>Item no.: 2009-145/000-012</b><br>Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type            | 2009-145<br>/000-012 |

|                                                                                    |                                                                                                                                      |                      |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------------|
|    | <b>Item no.: 2009-145/000-023</b><br>Mini-WSB Inline; for smartPRINTER; on reel; stretchable 5 - 5.2 mm; plain; snap-on type         | 2009-145<br>/000-023 |
|    | <b>Item no.: 2009-145/000-024</b><br>Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type        | 2009-145<br>/000-024 |
|    | <b>Item no.: 248-501</b><br>Miniature WSB Quick marking system; plain; Marker width 5 mm; 10 strips with 10 markers per card         | 248-501              |
|    | <b>Item no.: 248-501/000-002</b><br>Mini-WSB marking card; as card; not stretchable; plain; snap-on type                             | 248-501<br>/000-002  |
|    | <b>Item no.: 248-501/000-005</b><br>Mini-WSB marking card; as card; not stretchable; plain; snap-on type                             | 248-501<br>/000-005  |
|    | <b>Item no.: 248-501/000-006</b><br>Mini-WSB marking card; as card; not stretchable; plain; snap-on type                             | 248-501<br>/000-006  |
|    | <b>Item no.: 248-501/000-007</b><br>Mini-WSB marking card; as card; not stretchable; plain; snap-on type                             | 248-501<br>/000-007  |
|   | <b>Item no.: 248-501/000-012</b><br>Mini-WSB marking card; as card; not stretchable; plain; snap-on type                             | 248-501<br>/000-012  |
|  | <b>Item no.: 248-501/000-017</b><br>Mini-WSB marking card; as card; not stretchable; plain; snap-on type                             | 248-501<br>/000-017  |
|  | <b>Item no.: 248-501/000-023</b><br>Mini-WSB marking card; as card; not stretchable; plain; snap-on type                             | 248-501<br>/000-023  |
|  | <b>Item no.: 248-501/000-024</b><br>Mini-WSB marking card; as card; not stretchable; plain; snap-on type                             | 248-501<br>/000-024  |
|  | <b>Item no.: 750-103</b><br>Group marker carrier                                                                                     | 750-103              |
|  | <b>Item no.: 750-107</b><br>Group marker carrier                                                                                     | 750-107              |
| <b>Carrier rail</b>                                                                |                                                                                                                                      |                      |
|  | <b>Item no.: 210-112</b><br>Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 25 mm | 210-112              |
|  | <b>Item no.: 210-113</b><br>Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715                  | 210-113              |
|  | <b>Item no.: 210-114</b><br>Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715                   | 210-114              |

|                                                                                  |                                                                                                                                       |         |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------|
|  | <b>Item no.: 210-115</b><br>Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 18 mm" | 210-115 |
|  | <b>Item no.: 210-118</b><br>Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715                  | 210-118 |
|  | <b>Item no.: 210-196</b><br>Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslotted; similar to EN 60715                | 210-196 |
|  | <b>Item no.: 210-197</b><br>Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715                      | 210-197 |
|  | <b>Item no.: 210-198</b><br>Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715                 | 210-198 |
|  | <b>Item no.: 210-504</b><br>Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715         | 210-504 |
|  | <b>Item no.: 210-505</b><br>Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according to EN 60715       | 210-505 |
|  | <b>Item no.: 210-506</b><br>Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715        | 210-506 |
|  | <b>Item no.: 210-508</b><br>Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715          | 210-508 |

## Downloads

## Documentation

## Manual

|                                                      |         |               |          |
|------------------------------------------------------|---------|---------------|----------|
| 16-channel, 24VDC<br>Flat cable, high-side switching | V 1.1.0 | pdf<br>2.3 MB | Download |
|------------------------------------------------------|---------|---------------|----------|

## Bid Text

|                        |             |                |          |
|------------------------|-------------|----------------|----------|
| 750-1501<br>IO-Klemmen | Apr 4, 2012 | doc<br>27.6 kB | Download |
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## Additional Information

|                                                          |         |                 |          |
|----------------------------------------------------------|---------|-----------------|----------|
| Disposal; Electrical and electronic equipment, Packaging | V 1.0.0 | pdf<br>265.8 kB | Download |
|----------------------------------------------------------|---------|-----------------|----------|

## System Description

|                                                                                    |         |               |          |
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| Design Notes<br>Basic conditions and recommendations for higher operational safety | V 2.0.0 | pdf<br>1.5 MB | Download |
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|                                                                                        |         |               |          |
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| Use in Hazardous Environments<br>Term definition, marking and installation regulations | V 1.0.0 | pdf<br>1.0 MB | Download |
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