

## Module carrier - TC-D37SUB-ADIO16-EX-P-UNI - 2924854

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Universal termination carrier for connecting 16 MACX Analog Ex i signal conditioners to digital or analog I/O cards, via D-SUB connector, 37-pos. (1:1 connection)

### Your advantages

- ✓ Mechanically decoupled, passive PCB
- ✓ Robust aluminum profile with integrated DIN rail
- ✓ Side parts with integrated end clamps
- ✓ D-SUB pin strip system connection, 37-pos. (1:1 connection)
- ✓ Simple or redundant supply (decoupled from diode, protected against polarity reversal) and monitoring function implemented via separate DIN rail module
- ✓ Cable sets for signal connection are supplied as standard and do not have to be ordered separately



### Key Commercial Data

|              |   |
|--------------|---|
| Packing unit | 1 pc  |
| GTIN         | <br>4 046356 592017 |
| GTIN         | 4046356592017   |

### Technical data

#### Dimensions

|        |        |
|--------|--------|
| Width  | 242 mm |
| Height | 170 mm |
| Depth  | 160 mm |

#### Ambient conditions

|   |   |
|---|---|
| Ambient temperature (operation)         | -20 °C ... 60 °C (Please observe module specifications) |
| Ambient temperature (storage/transport) | -40 °C ... 80 °C  |
| Maximum altitude                        | ≤ 2000 m  |
| Permissible humidity (operation)        | 5 % ... 95 % (non-condensing)                           |
| Degree of protection                    | IP00  |

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## Technical data

### Ambient conditions

|                       |                                  |
|-----------------------|----------------------------------|
| Shock                 | 15g, according to IEC 60068-2-27 |
| Vibration (operation) | 2g, according to IEC 60068-2-6   |

### General

|                          |                                |
|--------------------------|--------------------------------|
| Nominal voltage $U_N$    | < 30 V DC (Per signal/channel) |
| Max. permissible current | 1 A (Signal/channel)           |
| Color                    | gray                           |

### Supply

|                                   |   |
|-----------------------------------|---|
| Designation                       | Power module  |
| Note                              | Power supply via 2904673 TC-MACX-MCR-PTB power supply and error signaling module. |
| Input voltage                     | 24 V DC   |
| Input voltage range               | 19.2 V DC ... 30 V DC   |
| Input current                     | ≤ 2 A   |
| Redundant supply                  | yes, decoupled from diodes  |
| Polarization and surge protection | Yes   |
| Output name                       | Switching output  |
| Contact type                      | 1 N/C contact (alarm = open)  |
| Maximum switching voltage         | 50 V DC (0.3 A)   |
| Fuse                              | 2x 2.5 A on PCB, slow-blow (replaceable)  |
| Status display                    | 1 x red LED (error)   |
|                                   | 2x green LEDs (PWR1 and PWR2)   |

### Connection data

|                                  |  |
|----------------------------------|--|
| Connection name                  | Power supply                                 |
| Connection method                | Screw connection                             |
| Stripping length                 | 7 mm   |
| Number of connections            | 1  |
| Number of positions              | 6  |
| Conductor cross section solid    | 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross section flexible | 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross section AWG      | 24 ... 12                                    |

### Connection data 2

|                       |                  |
|-----------------------|------------------|
| Connection name       | Controller level |
| Connection method     | D-SUB pin strip  |
| Number of connections | 1                |
| Number of positions   | 37               |

### Standards and Regulations

|                          |                                       |
|--------------------------|---------------------------------------|
| Designation              | Air clearances and creepage distances |
| Standards/regulations    | DIN EN 50178                          |
| Rated insulation voltage | 50 V                                  |

# Module carrier - TC-D37SUB-ADIO16-EX-P-UNI - 2924854

## Technical data

### Standards and Regulations

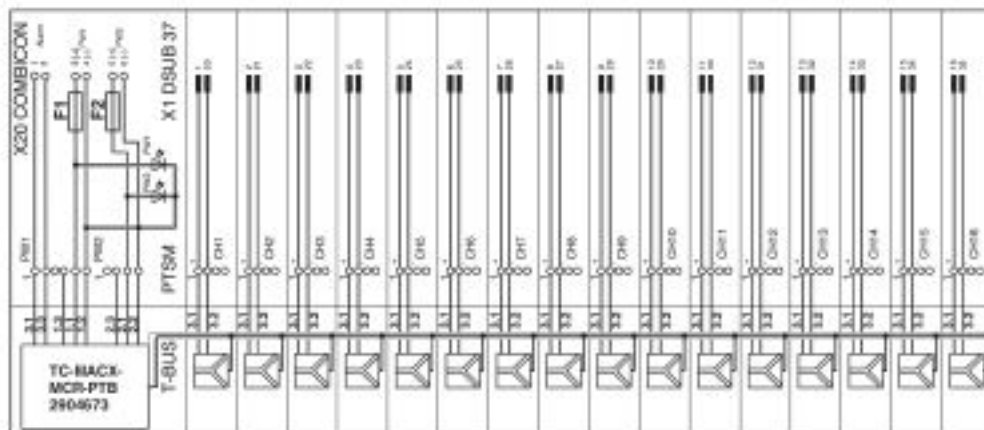
|                       |                                       |
|-----------------------|---------------------------------------|
| Rated surge voltage   | 0.5 kV                                |
| Insulation            | Basic insulation                      |
| Pollution degree      | 2                                     |
| Overvoltage category  | II                                    |
| Shock                 | 15g, according to IEC 60068-2-27      |
| Vibration (operation) | 2g, according to IEC 60068-2-6        |
| ATEX                  | # II 3 G Ex nA IIC T4 Gc X            |
| UL, USA/Canada        | UL 61010 Listed                       |
|                       | Class I, Div. 2, Groups A, B, C, D T4 |
|                       | Class I, Zone 2, Group IIC            |

### Environmental Product Compliance

|            |   |
|------------|---|
| REACH SVHC | Lead 7439-92-1  |
| China RoHS | Environmentally Friendly Use Period = 50 years  |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

## Drawings

Circuit diagram



### Articles in set

Cable set - TC-C-MAX2-SC-31320000 - 2902425



Cable set for signal transmission on the Termination Carrier for modules from the MACX Analog Ex series. Connection of terminal points 3.1 and 3.2 (signal transmission) to the signal PCB.

## Module carrier - TC-D37SUB-ADIO16-EX-P-UNI - 2924854

### Articles in set

Cable set - TC-C-PTB3-SC-SET1 - 2905216



Cable set for TC-MACX-MCR-PTB power and fault signaling module (Order No. 2904673), for use on the Termination Carrier for signal conditioners from the MACX Analog Ex series.

DIN rail bus connectors - ME 17,5 TBUS 1,5/ 5-ST-3,81 GN - 2709561



DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 5-pos.

DIN rail bus connectors - ME 6,2 TBUS-2 1,5/5-ST-3,81 GN - 2869728



DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 5-pos.

## Classifications

### eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27141152 |
| eCl@ss 4.0    | 27210100 |
| eCl@ss 4.1    | 27210100 |
| eCl@ss 5.0    | 27371600 |
| eCl@ss 5.1    | 27371600 |
| eCl@ss 6.0    | 27371600 |
| eCl@ss 7.0    | 27141152 |
| eCl@ss 8.0    | 27141152 |
| eCl@ss 9.0    | 27141152 |

### ETIM

|          |          |
|----------|----------|
| ETIM 4.0 | EC002780 |
| ETIM 5.0 | EC002780 |
| ETIM 6.0 | EC002780 |
| ETIM 7.0 | EC002780 |

# Module carrier - TC-D37SUB-ADIO16-EX-P-UNI - 2924854

## Classifications

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211811 |
| UNSPSC 7.0901 | 39121410 |
| UNSPSC 11     | 39121410 |
| UNSPSC 12.01  | 39121410 |
| UNSPSC 13.2   | 39121432 |
| UNSPSC 18.0   | 39121432 |
| UNSPSC 19.0   | 39121432 |
| UNSPSC 20.0   | 39121432 |
| UNSPSC 21.0   | 39121432 |

## Approvals

### Approvals

#### Approvals

UL Listed / cUL Listed / EAC / cULus Listed

#### Ex Approvals

ATEX / UL Listed / cUL Listed / cULus Listed

### Approval details

|                    |  |   |               |
|--------------------|--|---|---------------|
| UL Listed          |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 330267 |
| Nominal voltage UN |  | 50 V  |               |
| Nominal current IN |  | 1 A   |               |

|                    |  |   |               |
|--------------------|--|---|---------------|
| cUL Listed         |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 330267 |
| Nominal voltage UN |  | 50 V  |               |
| Nominal current IN |  | 1 A   |               |

|     |  |                          |
|-----|--|--------------------------|
| EAC |  | RU C-<br>DE.A*30.B.01742 |
|-----|--|--------------------------|

## Module carrier - TC-D37SUB-ADIO16-EX-P-UNI - 2924854

### Approvals

cULus Listed



### Accessories

#### Necessary add-on products

Power and error message module - TC-MACX-MCR-PTB - 2904673



Power and fault signaling module with screw connection, only for use on the Termination Carrier, excluding corresponding DIN rail bus connector

Power/input isolating amplifier - MACX MCR-EX-SL-RPSSI-I - 2865340



Ex i repeater power supply and input signal conditioner, HART. Transmits supplied or active 0/4 - 20 mA signals from the hazardous area to a load (active or passive) in the safe area. 3-way electrical isolation; SIL 2 according to IEC 61508, with screw connection

Temperature measuring transducer - MACX MCR-EX-SL-RTD-I - 2865939



Ex i temperature transducer: converts signals from resistance temperature detectors installed in the Ex area and transmits a 0/4 - 20 mA signal to a load in the safe area. Freely programmable. 3-way isolation, screw connection, order configuration. Replacement item: 1052463 MACX MCR-EX-RTD-I-C.

Temperature measuring transducer - MACX MCR-EX-SL-TC-I - 2865942



Ex i temperature transducer: converts signals from thermocouples installed in the Ex area and mV sources and transmits a 0/4 - 20 mA signal to a load in the safe area. Freely programmable, custom-configured. Replacement item: 1052458 MACX MCR-EX-TC-I-C.

## Module carrier - TC-D37SUB-ADIO16-EX-P-UNI - 2924854

### Accessories

Output signal conditioner - MACX MCR-EX-SL-IDS-I - 2865405



Ex i output signal conditioner, HART. Isolates and transmits 0/4 - 20 mA signals with intrinsic safety to a load (I/P converters, regulating valves, displays) in the Ex area. Open-circuit detection, SIL 2 in accordance with IEC 61508. Replacement item: 2908060 MACX MCR-EX-IDS-I-I.

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Isolation amplifier - MACX MCR-EX-SL-NAM-R - 2865434



Ex i NAMUR isolating amplifier For operating proximity sensors and switches in Ex areas. The signals are transmitted via a relay output (PDT contact) to the safe area. Line fault detection (LFD), 3-way isolation, SIL 2.

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Isolation amplifier - MACX MCR-EX-SL-NAM-2RO - 2865450



Ex i NAMUR isolating amplifier For operating proximity sensors and switches in Ex areas. The signals are transmitted via 2 relay outputs (N/O contact) to the safe area. Line fault detection (LFD), 3-way isolation, SIL 2.

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Isolation amplifier - MACX MCR-EX-SL-NAM-2T - 2865463



Ex i NAMUR isolating amplifier For operating proximity sensors and switches in Ex areas. The signals are transmitted via 2 transistor outputs (passive) to the safe area. Line fault detection (LFD), 3-way isolation, SIL 2.

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Signal isolator - MACX MCR-EX-SL-NAM-NAM - 2866006



Ex i NAMUR signal conditioner. For operating Ex i proximity sensors and switches in the Ex area. Passive transistor output (resistive according to EN 60947-5-6), line fault transparency, up to SIL 2 according to IEC 61508; screw connection.

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## Module carrier - TC-D37SUB-ADIO16-EX-P-UNI - 2924854

### Accessories

Isolation amplifier - MACX MCR-EX-SL-NAM-HO - 2907404



Ex i NAMUR signal conditioners. For operating Ex i proximity sensors and switches in hazardous areas. Passive transistor output (resistive, Honeywell-compatible), line fault transparency, up to SIL 2 according to IEC 61508; screw connection.

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Solenoid driver - MACX MCR-EX-SL-SD-21-25-LP - 2865492



Ex i solenoid driver. For the intrinsically safe control of Ex i solenoid valves, alarm modules or LEDs installed in the Ex area. Current limitation at 25 mA. For gases up to Group IIC, loop-powered, electrical isolation, SIL 3. Screw connection.

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Solenoid driver - MACX MCR-EX-SL-SD-21-40-LP - 2865764



Ex i solenoid driver. For the intrinsically safe control of Ex i solenoid valves, alarm modules or LEDs installed in the Ex area. Current limitation at 40 mA. For gases up to Group IIC, loop-powered, electrical isolation, SIL 3. Screw connection.

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Solenoid driver - MACX MCR-EX-SL-SD-24-48-LP - 2865609



Ex i solenoid driver. For the intrinsically safe control of Ex i solenoid valves, alarm modules or LEDs installed in the Ex area. Current limitation at 48 mA. For gases up to Group IIC, loop-powered, electrical isolation, SIL 3. Screw connection.

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Solenoid driver - MACX MCR-EX-SL-SD-21-60-LP - 2865515



Ex i solenoid driver. For the intrinsically safe control of Ex i solenoid valves, alarm modules or LEDs installed in the Ex area. Current limitation at 58 mA. For gases up to Group IIB, loop-powered, electrical isolation, SIL 3. Screw connection.

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## Module carrier - TC-D37SUB-ADIO16-EX-P-UNI - 2924854

### Accessories

#### Solenoid driver - MACX MCR-EX-SL-SD-21-25-LFD - 2905669



Ex i solenoid driver for controlling Ex i solenoid valves in hazardous areas, logic input, off-load voltage 21.1 V, current limitation at 25.1 mA, line fault transparency, error message output, up to SIL 3 according to IEC 61508; screw connection.

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#### Solenoid driver - MACX MCR-EX-SL-SD-23-48-LFD - 2924867



Ex i solenoid driver for controlling Ex i solenoid valves in hazardous areas, logic input, off-load voltage 22.6 V, current limitation at 48 mA, , line fault transparency, error message output, up to SIL 3 according to IEC 61508, screw connection

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#### Solenoid driver - MACX MCR-EX-SL-SD-24-48-LFD - 2906155



Ex i solenoid driver for controlling Ex i solenoid valves in hazardous areas, logic input, off-load voltage 24.3 V, current limitation at 48 mA, line fault transparency, error message output, up to SIL 3 according to IEC 61508; screw connection.

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#### Cable - CABLE-D37SUB/B/B/ 100/KONFEK/S - 2305509



Assembled shielded round cable; connection 1: D-SUB socket strip (1x 37-position); connection 2: D-SUB socket strip (1x 37-position); cable length: 1 m

---

#### Cable - CABLE-D37SUB/B/B/ 200/KONFEK/S - 2305512



Assembled shielded round cable; connection 1: D-SUB socket strip (1x 37-position); connection 2: D-SUB socket strip (1x 37-position); cable length: 2 m

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## Module carrier - TC-D37SUB-ADIO16-EX-P-UNI - 2924854

### Accessories

Cable - CABLE-D37SUB/B/B/ 300/KONFEK/S - 2305525



Assembled shielded round cable; connection 1: D-SUB socket strip (1x 37-position); connection 2: D-SUB socket strip (1x 37-position); cable length: 3 m

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Cable - CABLE-D37SUB/B/B/ 400/KONFEK/S - 2900759



Assembled shielded round cable; connection 1: D-SUB socket strip (1x 37-position); connection 2: D-SUB socket strip (1x 37-position); cable length: 4 m

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Cable - CABLE-D37SUB/B/B/ 600/KONFEK/S - 2900760



Assembled shielded round cable; connection 1: D-SUB socket strip (1x 37-position); connection 2: D-SUB socket strip (1x 37-position); cable length: 6 m

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Cable - CABLE-D37SUB/B/B/ 800/KONFEK/S - 2900761



Assembled shielded round cable; connection 1: D-SUB socket strip (1x 37-position); connection 2: D-SUB socket strip (1x 37-position); cable length: 8 m

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Cable - CABLE-D37SUB/B/B/1000/KONFEK/S - 2900762



Assembled shielded round cable; connection 1: D-SUB socket strip (1x 37-position); connection 2: D-SUB socket strip (1x 37-position); cable length: 10 m

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## Module carrier - TC-D37SUB-ADIO16-EX-P-UNI - 2924854

### Accessories

Cable - CABLE-D37SUB/B/B/1500/KONFEK/S - 2900763



Assembled shielded round cable; connection 1: D-SUB socket strip (1x 37-position); connection 2: D-SUB socket strip (1x 37-position); cable length: 15 m

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Cable - CABLE-D37SUB/B/B/2000/KONFEK/S - 2900764



Assembled shielded round cable; connection 1: D-SUB socket strip (1x 37-position); connection 2: D-SUB socket strip (1x 37-position); cable length: 20 m

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Cable - CABLE-D-37SUB/F/OE/0,25/S/0,5M - 2926221



Assembled shielded round cable; connection 1: Single wires (37-position) (The wires are marked and fitted with ferrules. The braided shield is routed to a separate cable end.); connection 2: D-SUB socket strip (1x 37-position); cable length: 0.5 m

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Cable - CABLE-D-37SUB/F/OE/0,25/S/1,0M - 2926234



Assembled shielded round cable; connection 1: Single wires (37-position) (The wires are marked and fitted with ferrules. The braided shield is routed to a separate cable end.); connection 2: D-SUB socket strip (1x 37-position); cable length: 1 m

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Cable - CABLE-D-37SUB/F/OE/0,25/S/1,5M - 2926247



Assembled shielded round cable; connection 1: Single wires (37-position) (The wires are marked and fitted with ferrules. The braided shield is routed to a separate cable end.); connection 2: D-SUB socket strip (1x 37-position); cable length: 1.5 m

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## Module carrier - TC-D37SUB-ADIO16-EX-P-UNI - 2924854

### Accessories

Cable - CABLE-D-37SUB/F/OE/0,25/S/2,0M - 2926250



Assembled shielded round cable; connection 1: Single wires (37-position) (The wires are marked and fitted with ferrules. The braided shield is routed to a separate cable end.); connection 2: D-SUB socket strip (1x 37-position); cable length: 2 m

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Cable - CABLE-D-37SUB/F/OE/0,25/S/3,0M - 2926263



Assembled shielded round cable; connection 1: Single wires (37-position) (The wires are marked and fitted with ferrules. The braided shield is routed to a separate cable end.); connection 2: D-SUB socket strip (1x 37-position); cable length: 3 m

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Cable - CABLE-D-37SUB/F/OE/0,25/S/4,0M - 2926276



Assembled shielded round cable; connection 1: Single wires (37-position) (The wires are marked and fitted with ferrules. The braided shield is routed to a separate cable end.); connection 2: D-SUB socket strip (1x 37-position); cable length: 4 m

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Cable - CABLE-D-37SUB/F/OE/0,25/S/6,0M - 2926289



Assembled shielded round cable; connection 1: Single wires (37-position) (The wires are marked and fitted with ferrules. The braided shield is routed to a separate cable end.); connection 2: D-SUB socket strip (1x 37-position); cable length: 6 m

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Cable set - TC-C-MAX2-SC-32220000 - 2904446



Cable set for signal transmission and power supply on the Termination Carrier for signal conditioners from the MACX Analog Ex series. Connection of terminal points 3.2 and 2.2 (signal transmission for active input cards) to the signal PCB.

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### Additional products

## Module carrier - TC-D37SUB-ADIO16-EX-P-UNI - 2924854

### Accessories

Label, highly flexible - EMLF (108XE)R - 0800549



Label, highly flexible, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, THERMOMARK ROLL X1, THERMOMARK ROLL 2.0, THERMOMARK ROLL, mounting type: adhesive, lettering field size: 108 x 48000 mm, Number of individual labels: 1

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Zack Marker strip, flat - ZBF 15:UNBEDRUCKT - 0811202



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into flat marker groove, for terminal block width: 15 mm, lettering field size: 15 x 5.2 mm, Number of individual labels: 5

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