

UR20-PF-O-2DI-DELAY-SIL

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com



SIL3; OSSD outputs; wire breakage and short-circuit detection

Safety technology is of central importance in industrial automation and machine building. If you want to reduce risks and avoid dangers for people and environment, you need solutions which satisfy stringent requirements and statutory specifications. The safety modules of the u-remote system have key features such as emergency-stop circuits and wire-breakage or short-circuit detection. They meet all SIL 3 requirements according to IEC 62061 and EN ISO 13849-1, category 4, PL e, and support the safe operation of your system.

By safely shutting down the downstream output modules, the safety modules attain maximum safety with optimum control. All input sensors are independently supplied via separate voltage paths and report the current machine status to the control unit. Restarting is either carried out in manual mode or using the autostart function. In addition, Weidmüller safety modules reduce maintenance and service times and improve response times in case of emergency – thanks to a concept of maximum transparency, e.g. using OSSD outputs.

The module electronics supply the connected actuators from the output current path (UOUT).

General ordering data

| | |
|------------|---|
| Version | Remote I/O module, IP20, Safety, SIL power supply |
| Order No. | 1335040000 |
| Type | UR20-PF-O-2DI-DELAY-SIL |
| GTIN (EAN) | 4050118138191 |
| Qty. | 1 items |

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Technical data

Approvals

Approvals



| | |
|---------------------------|----------------------------|
| ROHS | Conform |
| UL File Number Search | UL Website |
| Certificate no. (cULus) | E141197 |
| Certificate no. (cULusEX) | E223527 |

Dimensions and weights

| | | | |
|-----------------------------|---------|-----------------|-------------|
| Depth | 76 mm | Depth (inches) | 2.9921 inch |
| Height | 120 mm | Height (inches) | 4.7244 inch |
| Width | 11.5 mm | Width (inches) | 0.4528 inch |
| Mounting dimension - height | 128 mm | Net weight | 101 g |

Temperatures

| | | | |
|---------------------|-------------------|-----------------------|----------------|
| Storage temperature | -40 °C ... +85 °C | Operating temperature | -20 °C...60 °C |
|---------------------|-------------------|-----------------------|----------------|

Environmental Product Compliance

| | | | |
|--------------------------------------|--------------------------------------|------------------|--|
| RoHS Compliance Status | Compliant with exemption | | |
| RoHS Exemption (if applicable/known) | 7a, 7cl | | |
| REACH SVHC | Lead 7439-92-1 | | |
| SCIP | 82327f13-cd27-455a-ab5b-a62e1996dcf8 | | |
| Product Carbon Footprint | Cradle to gate | 8,319 kg CO2 eq. | |

digital inputs

| | | | |
|------------------------------|-----|-------------------------|-----|
| Wire break detection | Yes | Module diagnosis | Yes |
| Individual channel diagnosis | Yes | Short-circuit detection | Yes |

digital outputs

| | | | |
|------------------|-----|------------------------------|-----|
| Module diagnosis | Yes | Individual channel diagnosis | Yes |
|------------------|-----|------------------------------|-----|

Connection data

| | | | |
|--|----------------------|--|---------------------|
| Wire cross-section, finely stranded, max. (AWG) | AWG 16 | Wire cross-section, finely stranded, min. (AWG) | AWG 26 |
| Wire cross-section, solid, max. (AWG) | AWG 16 | Wire cross-section, solid, min. (AWG) | AWG 26 |
| Type of connection | PUSH IN | Wire cross-section, solid, max. | 1.5 mm ² |
| Wire cross-section, solid, min. | 0.14 mm ² | Wire connection cross section, finely stranded, max. | 1.5 mm ² |
| Wire connection cross section, finely stranded, min. | 0.14 mm ² | | |

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General data

| | | | |
|--------------------------|--|---------------------------|--|
| Vibration resistance | 5 Hz ≤ f ≤ 8.4 Hz: 3.5-mm amplitude as per IEC 60068-2-6, 8.4 Hz ≤ f ≤ 150 Hz: 1 g acceleration as per IEC 60068-2-6 | UL 94 flammability rating | V-0 |
| Test voltage | 500 V | Surge voltage category | II |
| Pollution severity | 2 | Mounting rail | TS 35 |
| Air pressure (operation) | ≥ 795 hPa (height ≤ 2000 m) as per DIN EN 61131-2 | Air humidity (transport) | 10% to 95%, non-condensing as per DIN EN 61131-2 |
| Air pressure (transport) | 1013 hPa (height 0 m) to 700 hPa (height 3000 m) as per DIN EN 61131-2 | Air pressure (storage) | 1013 hPa (height 0 m) to 700 hPa (height 3000 m) as per DIN EN 61131-2 |
| Air humidity (operation) | 10% to 95%, non-condensing as per DIN EN 61131-2 | Air humidity (storage) | 10% to 95%, non-condensing as per DIN EN 61131-2 |
| Shock | 15 g over 11 ms, half sinus wave, acc. to IEC 60068-2-27 | | |

Power supply

| | | | |
|--|--|---|----------------------|
| Supply voltage | 24 V DC +20 %/ -15 %, via the system bus | Current consumption from IIN (the respective power segment) | 35 mA |
| Current consumption from I _{sys} , typ. | 8 mA | Supply voltage for outputs | 24 V DC +20 %/ -15 % |
| Supply voltage system and inputs | 24 V DC +20 %/ -15 % | Feed current for IO _{UT} (output current path), max. | 8050 mA |

Safety characteristics in acc. with EN 61508

| | | | |
|--|---|--|------|
| HFT (hardware fault tolerance), inputs | 1 | Proportion of safety-related outages (SFF) | 98 % |
|--|---|--|------|

Safety characteristics in acc. with EN ISO 13849

| | |
|------|-------|
| MTTF | 100 a |
|------|-------|

System data

| | | | |
|--|------------------------------------|--------------------|---|
| Module type | Safe power-feed module | Interface | u-remote system bus |
| Galvanic isolation | 500 V DC between the current paths | Field bus protocol | PROFINET IRT, PROFINET RT, PROFIBUS DP-V1, EtherCAT, Modbus/TCP, EtherNet/IP, CANopen, DeviceNet, POWERLINK, CC-Link, CC-Link IE TSN, IEC 61162-450 |
| Transmission speed of system bus, max. 48 MBit/s | | | |

Classifications

| | | | |
|-------------|-------------|-------------|-------------|
| ETIM 8.0 | EC001600 | ETIM 9.0 | EC001600 |
| ETIM 10.0 | EC001600 | ECLASS 14.0 | 27-24-26-10 |
| ECLASS 15.0 | 27-24-26-10 | | |

UR20-PF-O-2DI-DELAY-SIL

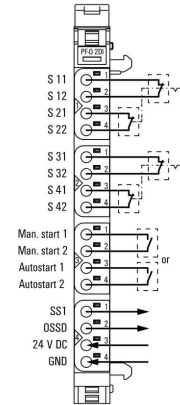
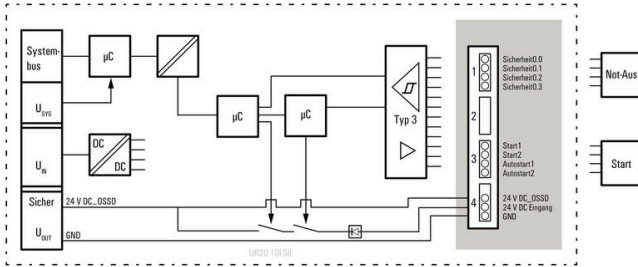
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Drawings

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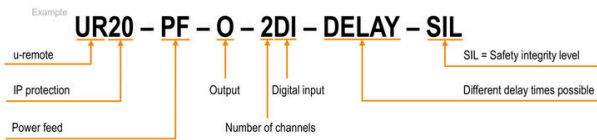
Block diagram

Connection diagram



Explanation of abbreviations

Safe power-feed modules



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Accessories

Accessories



System accessory

Discover a wide range of accessories for your u-remote system - the ideal addition to make your applications even more efficient and flexible.

General ordering data

| | | |
|------------|----------------------------|----------------|
| Type | UR20-EBK-ACC | Version |
| Order No. | 1346610000 | End bracket, , |
| GTIN (EAN) | 4050118151596 | |
| Qty. | 5 ST | |

| | | |
|------------|----------------------------|----------|
| Type | UR20-SM-ACC | Version |
| Order No. | 1339920000 | Cover, , |
| GTIN (EAN) | 4050118144727 | |
| Qty. | 20 ST | |

Blank



General ordering data

| | | |
|------------|----------------------------|--|
| Type | PM 2.7/2.6 MC NE WS | Version |
| Order No. | 1323710000 | OMNIMATE Signal - series PM, Pusher markers, 2.7 x 2.6 mm, Pitch |
| GTIN (EAN) | 4050118126778 | in mm (P): 3.50 Weidmueller, white |
| Qty. | 960 ST | |

Custom printing



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Accessories

General ordering data

| | | |
|------------|----------------------------|--|
| Type | PM 2.7/2.6 MC SDR | Version |
| Order No. | 1323700000 | OMNIMATE Signal - series PM, Pusher markers, 2.7 x 2.6 mm, Pitch |
| GTIN (EAN) | 4050118126761 | in mm (P): 3.50 Weidmueller, To customer specification |
| Qty. | 192 ST | |
| Type | DEK 5/8-11.5 MC SDR | Version |
| Order No. | 1341610000 | Dekafix, Terminal marker, 5 x 8 mm, Pitch in mm (P): 8.00 |
| GTIN (EAN) | 4050118146059 | Weidmueller, To customer specification |
| Qty. | 100 ST | |

Blank



The Dekafix (DEK) marker is the universal marker for all conductor and plug-in connectors as well as for electronic sub-assemblies. The system is ideal for short number sequences and covers a wide range of ready-printed markers.

Strips for fast installation in only one work step. The printing is easy to read, rich in contrast and available in various widths.

- Large range of ready-to-use markers
 - Strips for fast installation
 - Terminal markers, suitable for all Weidmüller cable connectors
 - Available as blank MultiCard or with standard printing
- For custom printing: Please send us a file of our labeling software M-Print PRO or M-Print PRO Online (without installation) for your labeling specifications.

General ordering data

| | | |
|------------|----------------------------|---|
| Type | DEK 5/8-11.5 MC NE WS | Version |
| Order No. | 1341630000 | Dekafix, Terminal marker, 5 x 8 mm, Pitch in mm (P): 8.00 |
| GTIN (EAN) | 4050118145946 | Weidmueller, white |
| Qty. | 500 ST | |

Aluminum



Aluminum has the second best electrical conductivity after copper. One advantage is low weight, anMiscellaneous is outstanding corrosion protection.

General ordering data

| | | |
|------------|----------------------------|---|
| Type | TS 35X7.5 2M/AL/BK | Version |
| Order No. | 0330800000 | Terminal rail, Accessories, Aluminium, untreated, Width: 2000 mm, |
| GTIN (EAN) | 4008190100650 | Height: 35 mm, Depth: 7.5 mm |
| Qty. | 40 M | |

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Accessories

Stainless steel



Stainless steel is a collective term for all types of steel (alloys) with a high degree of purity and corrosion resistance.

General ordering data

| | | | |
|------------|----------------------------|---|--|
| Type | TS 35X7.5 2M/CRN | Version | |
| Order No. | 1747350000 | Terminal rail, Accessories, Stainless steel 1.4301, untreated, Width: | |
| GTIN (EAN) | 4032248003372 | 2000 mm, Height: 35 mm, Depth: 7.5 mm | |
| Qty. | 40 M | | |

Steel



Steel DIN rails are the most widespread on the market. Among metal DIN rails, they have the lowest shortcircuit protection, similar to stainless steel.

General ordering data

| | | | |
|------------|----------------------------|---|--|
| Type | TS 35X7.5 2M/ST/ZN | Version | |
| Order No. | 0383400000 | Terminal rail, Accessories, Steel, galvanic zinc plated and passivated, | |
| GTIN (EAN) | 4008190088026 | Width: 2000 mm, Height: 35 mm, Depth: 7.5 mm | |
| Qty. | 40 M | | |
| Type | TS 35X7.5/LL 2M/ST/ZN | Version | |
| Order No. | 0514500000 | Terminal rail, Accessories, Steel, galvanic zinc plated and passivated, | |
| GTIN (EAN) | 4008190046019 | Width: 2000 mm, Height: 35 mm, Depth: 7.5 mm | |
| Qty. | 40 M | | |
| Type | TS 35X7.5/LL 1M/ST/ZN | Version | |
| Order No. | 0514510000 | Terminal rail, Accessories, Steel, galvanic zinc plated and passivated, | |
| GTIN (EAN) | 4008190116620 | Width: 1000 mm, Height: 35 mm, Depth: 7.5 mm | |
| Qty. | 20 M | | |
| Type | TS 35X7.5/LL 2M/ST/SZ | Version | |
| Order No. | 7915060000 | Terminal rail, Accessories, Steel, galvanic zinc plated and passivated, | |
| GTIN (EAN) | 4032248296279 | Width: 2000 mm, Height: 35 mm, Depth: 7.5 mm | |
| Qty. | 40 M | | |

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Accessories

Crimping tools



Crimping tools for wire end ferrules, with and without plastic collars

- Ratchet guarantees precise crimping
- Release option in the event of incorrect operation

General ordering data

| | | | |
|------------|----------------------------|---------|--|
| Type | PZ 2.5 S | Version | |
| Order No. | 2903690000 | | 0.14mm ² , 2.5mm ² , Trapezoidal crimp |
| GTIN (EAN) | 4099986027008 | | |
| Qty. | 1 ST | | |

Basic modules



General ordering data

| | | | |
|------------|----------------------------|---------|---|
| Type | UR20-BM-PF-O-SIL-SP | Version | |
| Order No. | 1350970000 | | Replacement part , Flange-mounted housing |
| GTIN (EAN) | 4050118398342 | | |
| Qty. | 5 ST | | |

Electronic modules



General ordering data

| | | | |
|------------|----------------------------|---------|------------------|
| Type | UR20-EM-1335040000-SP | Version | |
| Order No. | 1347530000 | | Replacement part |
| GTIN (EAN) | 4050118248227 | | |
| Qty. | 1 ST | | |

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Accessories

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Plugkit



General ordering data

| | | | |
|------------|----------------------------|------------------|--|
| Type | UR20-PK-1335040000-SP | Version | |
| Order No. | 1484100000 | Replacement part | |
| GTIN (EAN) | 4050118293470 | | |
| Qty. | 5 ST | | |