

UR20-1CNT-100-1DO

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image



Digital counter and communication modules 100/500 kHz; 32-bit counter resolution; individual channel diagnosis

Incremental and absolute value encoders have become indispensable in today's automated systems. Developed especially for these applications, Weidmüller offers you various counter modules that can accept an input frequency up to 500 kHz. The synchronous-serial interface (SSI) module allows high precision positioning tasks to be realised with absolute value encoders. The module can be parameterised for listening or master mode operation in order to cope with all fields of application. A module with pulse input is available to you for frequency measurement up to 100 kHz and the UR20-1CNT-500 offers an input that can accept frequencies up to 500 kHz. The UR20-2CNT-100 module has two independent counter inputs; it is supplemented with the UR20-1CNT-100-1DO module with one counter, which however offers additional options thanks to a latch, gate and reset input. This allows external control of the counter. In addition, this module can trigger an immediate event via a digital output using a set reference value.

The UR20-1COM-232-485-422 module offers you extended communication options; for example devices can be integrated consistently in u-remote systems via an RS232, RS485 or RS422 interface. The UR20-1COM-

SAI-PRO module presents a solution for connecting the control cabinet to the field. This gateway allows the integration of up to 15 decentral IP67 SAI-PRO Subbus modules per u-remote module.

The module electronics supply the connected sensors with power from the input current path (UIN).

General ordering data

| | |
|-------------------|--|
| Version | Remote I/O module, IP20, Digital signals, Input, PUSH IN connection, Counter, Single channel |
| Order No. | 1315570000 |
| Type | UR20-1CNT-100-1DO |
| GTIN (EAN) | 4050118118193 |
| Qty. | 1 pc(s). |
| Replacement parts | 1350930000 1346520000 1347140000 |

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Catalogue status 09.09.2022 / We reserve the right to make technical changes.

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Technical data

Dimensions and weights

| | | | |
|-----------------------------|---------|-----------------|------------|
| Depth | 76 mm | Depth (inches) | 2.992 inch |
| Height | 120 mm | Height (inches) | 4.724 inch |
| Width | 11.5 mm | Width (inches) | 0.453 inch |
| Mounting dimension - height | 128 mm | Net weight | 85 g |

Temperatures

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

Environmental Product Compliance

| | | | |
|------------|----------------|------|--------------------------------------|
| REACH SVHC | Lead 7439-92-1 | SCIP | 82327f13-cd27-455a-ab5b-a62e1996dcf8 |
|------------|----------------|------|--------------------------------------|

digital inputs

| | | | |
|--------------------------------|--|--------|--|
| Counter width | 32 Bit | | |
| Individual channel diagnosis | Yes | | |
| Input filter | configurable | | |
| Input type | for Type 1 and Type 3 sensors as per IEC 61131-2 | | |
| Input voltage, high | > 11 V | | |
| Input voltage, low | < 5 V | | |
| Latch, gate, reset input | Yes | | |
| Max. input current per channel | 3.5 mA | | |
| Max. input frequency | 100 kHz | | |
| Mode of operation | Pulse, Direction, 1-, 2-, 4-times | | |
| Module diagnosis | Yes | | |
| Number | 1 | | |
| Reverse polarity protection | Yes | | |
| Sensor connection | 2-wire, 3-wire | | |
| Sensor supply | Yes | | |
| Sensor supply | max. | 750 mA | |
| | min. | 0 mA | |
| | nominal | 750 mA | |

Connection data

| | | | |
|--|----------------------|--|----------------------|
| Number | 1 | Type of connection | PUSH IN |
| Wire connection cross section, finely stranded, max. | 1.5 mm ² | Wire connection cross section, finely stranded, min. | 0.14 mm ² |
| Wire cross-section, finely stranded, max. (AWG) | AWG 16 | Wire cross-section, finely stranded, min. (AWG) | AWG 26 |
| Wire cross-section, solid, max. | 1.5 mm ² | Wire cross-section, solid, max. (AWG) | AWG 16 |
| Wire cross-section, solid, min. | 0.14 mm ² | Wire cross-section, solid, min. (AWG) | AWG 26 |

General data

| | |
|--------------------------|--|
| 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 |
| Air humidity (transport) | 10% to 95%, non-condensing as per DIN EN 61131-2 |
| Air pressure (operation) | ≥ 795 hPa (height ≤ 2000 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 pressure (transport) | 1013 hPa (height 0 m) to 700 hPa (height 3000 m) as per DIN EN 61131-2 |
| Pollution severity | 2 |
| Rail | TS 35 |

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| | | | |
|---------------------------|--|--------------|--------|
| Restricted area | Type of restricted area | thermal | |
| | Negative expansion | Y coordinate | -40 mm |
| | | Z coordinate | 0 mm |
| | | X coordinate | -28 mm |
| | Positive expansion | Z coordinate | 85 mm |
| X coordinate | | 43 mm | |
| Y coordinate | | 160 mm | |
| Shock | 15 g over 11 ms, half sinus wave, acc. to IEC 60068-2-27 | | |
| Surge voltage category | II | | |
| Test voltage | 500 V | | |
| UL 94 flammability rating | V-0 | | |
| 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 | | |

Power supply

| | | | |
|---|-----------------------------|--|--|
| Current consumption from I _{IN} (the respective power segment) | 35 mA (plus output current) | Current consumption from I _{sys} , typ. | 8 mA |
| Reverse polarity protection | Yes | Voltage supply | 24 V DC +20 %/ -15 %, via the system bus |

System data

| | | | |
|--|---|--------------------|------------------------------------|
| 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 | Galvanic isolation | 500 V DC between the current paths |
| Interface | u-remote system bus | Module type | Functional module |
| Transmission speed of system bus, max. 48 Mbit | | | |

Classifications

| | | | |
|-------------|-------------|-------------|-------------|
| ETIM 6.0 | EC001601 | ETIM 7.0 | EC001601 |
| ETIM 8.0 | EC001601 | ECLASS 9.0 | 27-24-26-05 |
| ECLASS 9.1 | 27-24-26-05 | ECLASS 10.0 | 27-24-26-05 |
| ECLASS 11.0 | 27-24-26-05 | ECLASS 12.0 | 27-24-26-05 |

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Approvals

Approvals



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

Downloads

| | |
|---|--|
| Approval/Certificate/Document of Conformity | Declaration of Conformity Compass safe distance certificate Lloyds Register certificate DNV/GL certificate ABS certificate RINA certificate Bureau Veritas - Type Approval Certificate PRS (Polish Register of Shipping) NIPPON KAIJI KYOKAI Certificate DEMKO 15ATEX1525X UKCA Declaration of Conformity - EN |
| Engineering Data | CAD data – STEP Compatibility information – Combinability of UR20 |
| Engineering Data | WSCAD, Zuken E3.S, EPLAN |
| User Documentation | MAN_U-REMOTE_DE MAN_U-REMOTE_EN |
| Catalogues | Catalogues in PDF-format |

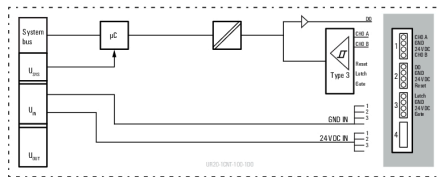
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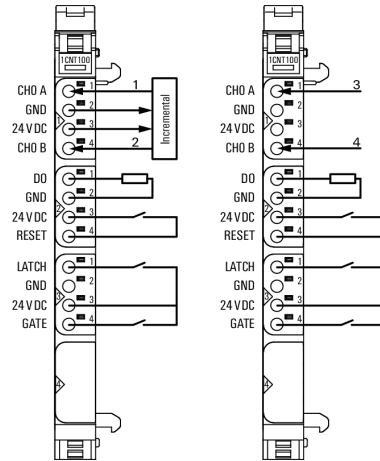
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Drawings

Block diagram



Connection diagram



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