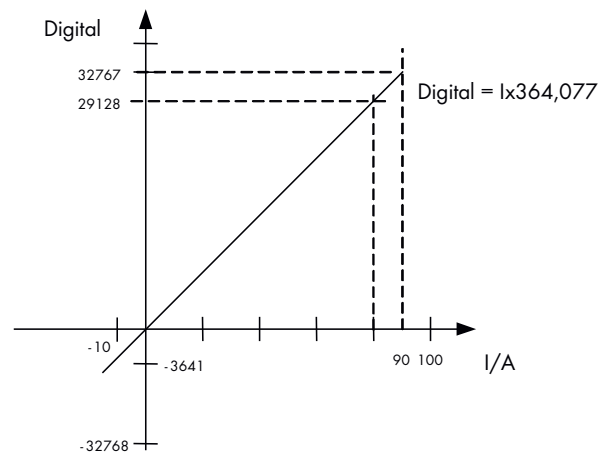
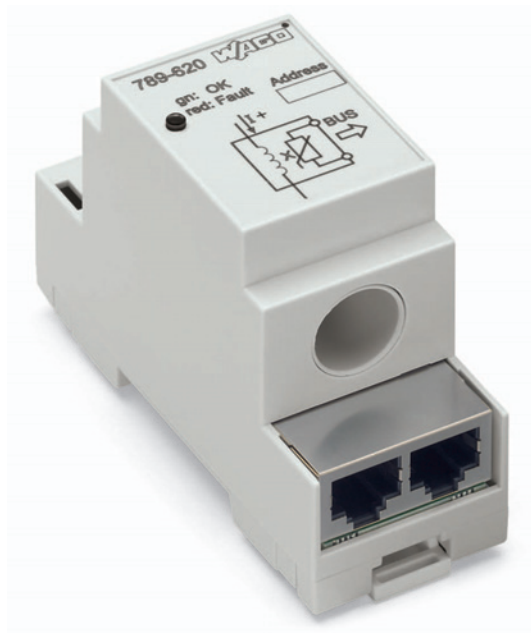


Current Sensor with Bus Connection in DIN-Rail Mountable Enclosure

Measuring range 0 ... 80 A



Short description:

Intelligent current sensor for monitoring solar plants or inverters for DC measurements within a large current measuring range.

| Description | Item No. | Pack. Unit |
|---|--|------------|
| Current sensor with bus connection | 789-620 | 1 |
| Accessories | | |
| Accessories for data and auxiliary power supply | | |
| RJ-45 interface module | 289-965 | 1 |
| RJ-45 interface module with shield (screen) clamping saddle | 289-966 | 1 |
| Approvals | | |
| Conformity marking | CE | |
| Standards/Specifications | DIN EN 50178; EN 61000-6-2; EN 61000-6-4 | |
| General Specifications | | |
| Dimensions (mm) W x H x L | 35 x 55 x 90 | |
| | Height from upper-edge of DIN 35 rail | |
| Ambient operating temperature | -20 °C ... +70 °C | |
| Storage temperature | -40 °C ... +85 °C | |

| Technical Data | |
|----------------------------------|--|
| Electrical data: | |
| Measuring range | 0 ... 80 A DC |
| Voltage supply | 12 - 34V |
| Max. current consumption | ≤ 8 mA at 24 V |
| Transmission error | ≤ 0.5 % of upper range value (at room temperature) |
| Temperature coefficient | 0.01 % /K |
| Time frame for polling by master | < 30 ms |
| Hot plugging | possible |
| Terminating resistor | 150 Ω (can be activated via DIP switch 1) |
| Status indication | Green: power Red: measured current < -3 A or > 83 A |
| Mechanical data: | |
| Power cable feed-through | 15 mm |
| Degree of protection | IP20 |
| Communication: | |
| Interface | RS-485 |
| Transmission channels | Half duplex 8-bit data, 1 stop bit |
| Protocols | MODBUS over serial line |
| Connector | RJ-45 |
| Addressing | 1 ... 32 |
| Max. length of bus line | ≤ 1200m |
| Baud rate | 19,200 baud |
| Parity | Even |

RJ-45-Connector Pin Assignment:

| Pin | Function |
|-----|-----------|
| 1 | Ub |
| 2 | |
| 3 | n.c. |
| 4 | A (Data+) |
| 5 | B (Data-) |
| 6 | n.c. |
| 7 | GND |
| 8 | |

RS-485

half duplex

Uart:

Communication settings required for transducer:

Baud rate: 19200 bd

Data bits: 8

Parity: even

Stop bits: 1

Communication Description:

| MODBUS Function | Read Holding Registers (0x03) | Data Type Measurement |
|-----------------|-------------------------------|-----------------------|
| Device Type | 0x0000 | Char |
| Firmware | 0x0001 | Char |
| Error Code | 0x0002 | Integer |
| Measurement | 0x0004 | Integer |
| Exception Code | 0x0006 | Integer |

Error Numbers:

| id | Description |
|-----|----------------------------|
| 01 | Illegal Function |
| 03 | Illegal Data |
| 101 | Overflow (Current > +83 A) |
| 102 | Underflow (Current < -3 A) |

DIP Switch Adjustability

● = ON

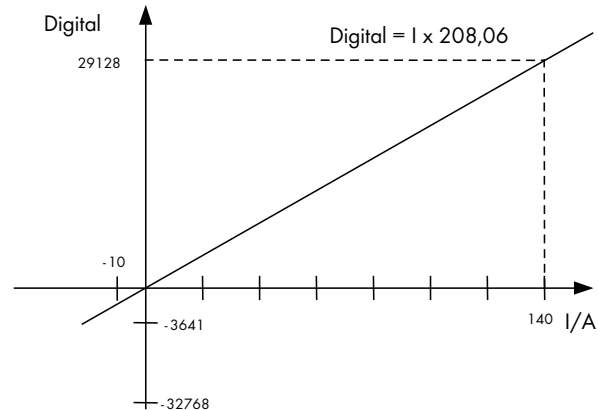
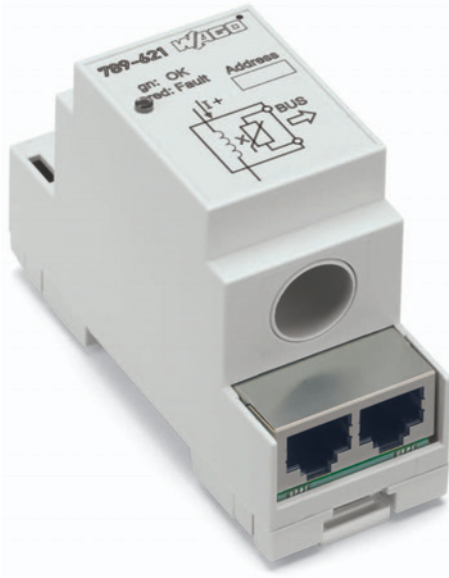
| Adress | DIP Switch | | | | | |
|--------|------------|---|---|---|---|--|
| | 2 | 3 | 4 | 5 | 6 | |
| 1 | | | | | | |
| 2 | | | | | ● | |
| 3 | | | | ● | | |
| 4 | | | | ● | ● | |
| 5 | | | ● | | | |
| 6 | | | ● | | ● | |
| 7 | | | ● | ● | | |
| 8 | | | ● | ● | ● | |
| 9 | | ● | | | | |
| 10 | | ● | | | ● | |
| 11 | | ● | | ● | | |
| 12 | | ● | | ● | ● | |
| 13 | | ● | ● | | | |
| 14 | | ● | ● | | ● | |
| 15 | | ● | ● | ● | | |
| 16 | | ● | ● | ● | ● | |
| 17 | ● | | | | | |
| 18 | ● | | | | ● | |
| 19 | ● | | | ● | | |
| 20 | ● | | | ● | ● | |
| 21 | ● | | ● | | | |
| 22 | ● | | ● | | ● | |
| 23 | ● | | ● | ● | | |
| 24 | ● | | ● | ● | ● | |
| 25 | ● | ● | | | | |
| 26 | ● | ● | | | ● | |
| 27 | ● | ● | | ● | | |
| 28 | ● | ● | | ● | ● | |
| 29 | ● | ● | ● | | | |
| 30 | ● | ● | ● | | ● | |
| 31 | ● | ● | ● | ● | | |
| 32 | ● | ● | ● | ● | ● | |

| Terminating resistor | DIP Switch 1 |
|----------------------|--------------|
| - | |
| 150 Ohm | ● |

NOTICE:
Only set the MODBUS address in the OFF state.

Current Sensor with Bus Connection in DIN-Rail Mountable Enclosure

Measuring range: 0 – 140 A



Short description:

Intelligent current sensor for monitoring solar plants or inverters for DC measurements within a large current measuring range.

| Description | Item No. | Pack. Unit |
|---|---|------------|
| Current sensor with bus connection | 789-621 | 1 |
| Accessories | | |
| Accessories for data and auxiliary power supply | | |
| RJ-45 interface module | 289-965 | 1 |
| RJ-45 interface module with shield (screen) clamping saddle | 289-966 | 1 |
| Approvals | | |
| Conformity marking | CE | |
| Standards/Specifications | DIN EN 50178; EN 61000-6-2 ; EN 61000-6-4 | |
| General Specifications | | |
| Dimensions (mm) W x H x L | 35 x 55 x 90 | |
| | Height from upper-edge of DIN 35 rail | |
| Ambient operating temperature | -20 °C ... +70 °C | |
| Storage temperature | -40 °C ... +85 °C | |

| Technical Data | |
|----------------------------------|--|
| Electrical data: | |
| Measuring range | 0 - 140A DC |
| Voltage supply | 12 - 34V |
| Max. current consumption | ≤ 8 mA at 24 V |
| Transmission error | 0 - 80A: ≤ 0.5% of upper range value (at room temperature); 80 - 140A: ≤ 1% of upper range value (at room temperature) |
| Temperature coefficient | ≤ 0.05% /K (at ambient operating temperature: -20 °C ... +60 °C); ≤ 0.1% /K (at ambient operating temperature: +60 °C ... +70 °C) |
| Time frame for polling by master | < 30 ms |
| Hot plugging | possible |
| Terminating resistor | 150Ω (can be activated via DIP switch 1) |
| Status indication | Green: power; Red: measured current < -3A or > 143A |
| Mechanical data: | |
| Power cable feed-through | 15 mm |
| Degree of protection | IP20 |
| Communication: | |
| Interface | RS-485 |
| Transmission channels | Half duplex, 8-bit data, 1 stop bit |
| Protocols | MODBUS RTU Slave over serial line |
| Connector | RJ-45 |
| Addressing | 1 ... 32 |
| Max. length of bus line | ≤ 1200m |
| Baud rate | 19200 baud |
| Parity | Even |

RJ-45-Connector Pin Assignment:

| Pin | Function |
|-----|-----------|
| 1 | Ub |
| 2 | |
| 3 | n.c. |
| 4 | A (Data+) |
| 5 | B (Data-) |
| 6 | n.c. |
| 7 | GND |
| 8 | |

RS-485

half duplex

Uart:

Communication settings required for transducer:

Baud rate: 19200 bd

Data bits: 8

Parity: even

Stop bits: 1

Communication Description:

| MODBUS Function | Read Holding Registers (0x03) |
|---------------------------|-------------------------------|
| Address of Measured Value | 0x0004 |
| Data Type Measurement | Integer |

DIP Switch Adjustability

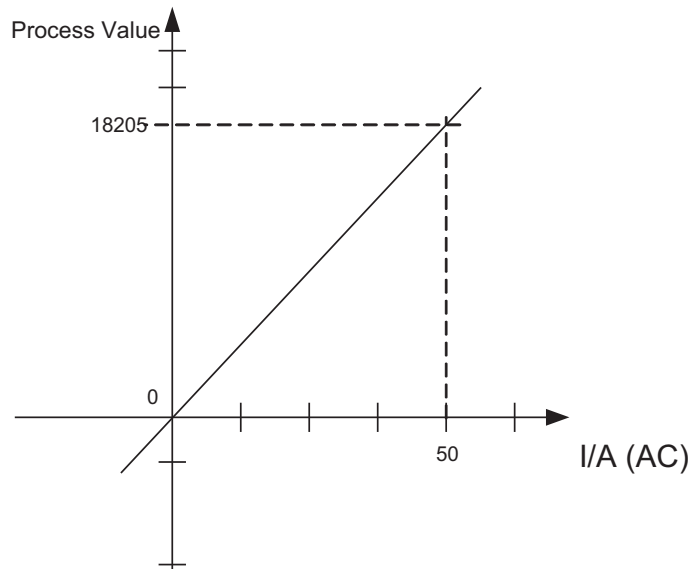
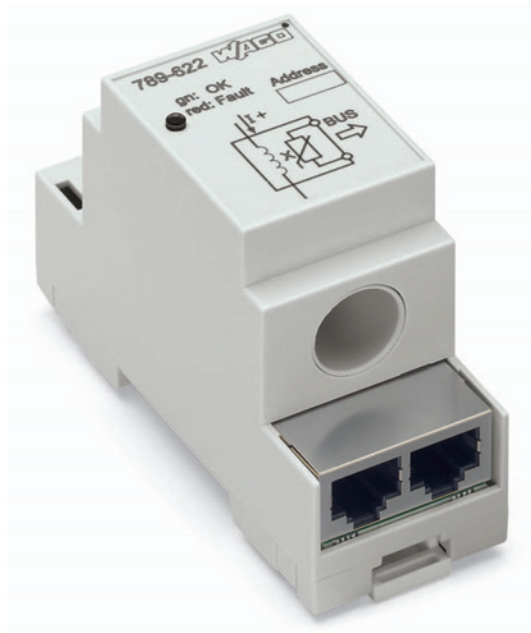
● = ON

| Address | DIP Switch | | | | | Terminating resistor | DIP Switch 1 |
|---------|------------|---|---|---|---|----------------------|--------------|
| | 2 | 3 | 4 | 5 | 6 | | |
| 1 | | | | | | - | |
| 2 | | | | | | 150 Ohm | ● |
| 3 | | | | ● | | | |
| 4 | | | | ● | ● | | |
| 5 | | | ● | | | | |
| 6 | | | ● | | | | ● |
| 7 | | | ● | ● | | | |
| 8 | | | ● | ● | | | ● |
| 9 | | ● | | | | | |
| 10 | | ● | | | | | ● |
| 11 | | ● | | ● | | | |
| 12 | | ● | | ● | ● | | |
| 13 | | ● | ● | | | | |
| 14 | | ● | ● | | | | ● |
| 15 | | ● | ● | ● | | | |
| 16 | | ● | ● | ● | ● | | ● |
| 17 | ● | | | | | | |
| 18 | ● | | | | | | ● |
| 19 | ● | | | ● | | | |
| 20 | ● | | | ● | ● | | |
| 21 | ● | | ● | | | | |
| 22 | ● | | ● | | | | ● |
| 23 | ● | | ● | ● | | | |
| 24 | ● | | ● | ● | ● | | |
| 25 | ● | ● | | | | | |
| 26 | ● | ● | | | | | ● |
| 27 | ● | ● | | ● | | | |
| 28 | ● | ● | | ● | ● | | ● |
| 29 | ● | ● | ● | | | | |
| 30 | ● | ● | ● | | | | ● |
| 31 | ● | ● | ● | ● | | | |
| 32 | ● | ● | ● | ● | ● | | ● |

NOTICE:
Only set the MODBUS address in the OFF state.

Current Sensor with Bus Connection in DIN-Rail Mountable Enclosure

Measuring range: 0 – 50 A_{eff.}



Short description:

Intelligent DIN 35-rail mount current sensor for monitoring AC currents.

| Description | Item No. | Pack. Unit |
|---|---|------------|
| Current sensor with bus connection | 789-622 | 1 |
| Accessories | | |
| Description | Item No. | Pack. Unit |
| Accessories for data and auxiliary power supply | | |
| RJ-45 interface module | 289-965 | 1 |
| RJ-45 interface module with shield (screen) clamping saddle | 289-966 | 1 |
| Approvals | | |
| Conformity marking | CE | |
| Standards/Specifications | DIN EN 50178; EN 61000-6-2 ; EN 61000-6-4 | |
| General Specifications | | |
| Dimensions (mm) W x H x L | 35 x 55 x 90 | |
| | Height from upper-edge of DIN 35 rail | |
| Ambient operating temperature | -20 °C ... +70 °C | |
| Storage temperature | -40 °C ... +85 °C | |

| Technical Data | |
|----------------------------------|--|
| Electrical data: | |
| Measuring range | 0 – 50 A AC _{eff.} |
| Voltage supply | 12 – 34 V |
| Max. current consumption | ≤ 8 mA at 24 V |
| Transmission error | typ. 1%, max. 3% of upper range value (at room temperature) |
| Temperature coefficient | ≤ 0.01% /K |
| Time frame for polling by master | < 30 ms |
| Hot plugging | possible |
| Terminating resistor | 150 Ω (can be activated via DIP switch 1) |
| Status indication | Green: Power Red: Measured current > 55 A _{eff.} |
| Mechanical data: | |
| Power cable feed-through | 15 mm |
| Degree of protection | IP20 |
| Communication: | |
| Interface | RS-485 |
| Transmission channels | Half duplex, 8-bit data, 1 stop bit |
| Protocols | MODBUS RTU slave over serial line |
| Connector | RJ-45 |
| Addressing | 1 – 32 |
| Max. length of bus line | ≤ 1200 m |
| Baud rate | 19200 baud |
| Parity | Even |

RJ-45-Connector Pin Assignment:

| Pin | Function |
|-----|-----------|
| 1 | Ub |
| 2 | |
| 3 | n.c. |
| 4 | A (Data+) |
| 5 | B (Data-) |
| 6 | n.c. |
| 7 | GND |
| 8 | |

RS-485
half duplex

Uart:
Communication settings required for transducer:

Baud rate: 19200 bd
Data bits: 8
Parity: even
Stop bits: 1

Communication Description:

| MODBUS Function | Read Holding Registers (0x03) |
|---------------------------|-------------------------------|
| Address of Measured Value | 0x0004 |
| Data Type Measurement | Integer |

DIP Switch Adjustability

● = ON

| Adress | DIP Switch | | | | | |
|--------|------------|---|---|---|---|--|
| | 2 | 3 | 4 | 5 | 6 | |
| 1 | | | | | | |
| 2 | | | | | ● | |
| 3 | | | | ● | | |
| 4 | | | | ● | ● | |
| 5 | | | ● | | | |
| 6 | | | ● | | ● | |
| 7 | | | ● | ● | | |
| 8 | | | ● | ● | ● | |
| 9 | | ● | | | | |
| 10 | | ● | | | ● | |
| 11 | | ● | | ● | | |
| 12 | | ● | | ● | ● | |
| 13 | | ● | ● | | | |
| 14 | | ● | ● | | ● | |
| 15 | | ● | ● | ● | | |
| 16 | | ● | ● | ● | ● | |
| 17 | ● | | | | | |
| 18 | ● | | | | ● | |
| 19 | ● | | | ● | | |
| 20 | ● | | | ● | ● | |
| 21 | ● | | ● | | | |
| 22 | ● | | ● | | ● | |
| 23 | ● | | ● | ● | | |
| 24 | ● | | ● | ● | ● | |
| 25 | ● | ● | | | | |
| 26 | ● | ● | | | ● | |
| 27 | ● | ● | | ● | | |
| 28 | ● | ● | | ● | ● | |
| 29 | ● | ● | ● | | | |
| 30 | ● | ● | ● | | ● | |
| 31 | ● | ● | ● | ● | | |
| 32 | ● | ● | ● | ● | ● | |

| Terminating resistor | DIP Switch 1 |
|----------------------|--------------|
| - | |
| 150 Ohm | ● |

NOTICE:
Only set the MODBUS address in the OFF state.