

# Turck Cloud Gateway

## WLAN Gateway

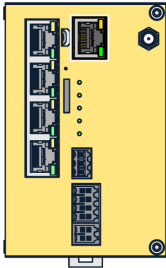
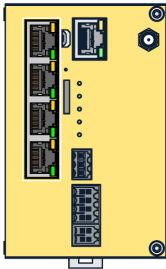
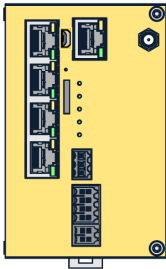
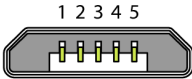
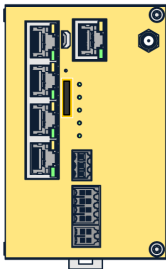
### TCG20-WLAN-5ETH-CRS-01

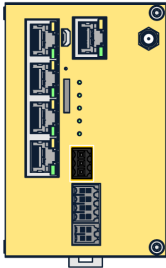
|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type                           | TCG20-WLAN-5ETH-CRS-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ID                             | 100002558                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Supply</b>                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Supply voltage                 | 24 VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Admissible range               | 20.4...27.6 VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Power dissipation, typical     | ≤ 3.3 W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>System data</b>             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Transmission rate Ethernet     | 10/100 Mbps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Connection technology Ethernet | 5 × RJ45                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Web server                     | Username: admin<br>Password: password                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Controller</b>              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Processor                      | ARM Cortex A7, 32 Bit, 528 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Memory                         | 64 MB Flash                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| RAM memory                     | 128 MB DDR3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Remanent memory                | 8 kB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Add-on memory                  | 1 × SD card slot, 1 × USB host port (currently without function)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Real time clock                | yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Operating system               | Linux                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>PLC data</b>                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Programming                    | Web-based EDGE-PLC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| WEB PLC                        | Visual programming editor, runs on the internal web server; I/O Mapping Editor; Up to 8192 I/O values and 1024 portal variables                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| WEB PLC functions              | Up to 2048 functional units, I/O values, portal variables and constants<br>IPO cycle time: 10 to 1000 ms<br>Data type converters: Bool, Uint8, Sint8, Uint16, Sint16, Uint32, Sint32, Float32, Float64, String<br>Binary: AND, OR, XOR<br>Bits and bytes: Extract, Pack, Put Bit, Shift Register, Unpack<br>Controllers: On/Off, P, Shade<br>Messages: Send, Receive<br>Numerical: Subtraction, Multiplication, Division, Minimum, Maximum, Min Acc, Max Acc, Average, Counter, Compare, Signal Limiter, Signal Converter, Signal Smoother, Signal Tracker<br>Special: First Cycle, OpenVPN, Portal Status Storage, Selection, Edge<br>Detection: Demultiplexer, Multiplexer, RS Flipflop, T Flipflop, Trigger, Analog Trigger, Load Profile, State Machines<br>Timing: Local Clock, UTC Clock, Stop Watch, TON, TOFF, TP, Timer, Compare Time, Time Switches |



- End-to-end encryption of all communications (TLS v1.2, AES128/AES256)
- 5x Ethernet ports
- 1x CAN interface
- 1x serial interface RS232/RS485
- Modbus TCP client/server
- Modbus RTU master/slave
- OPC-UA server
- CODESYS network variables
- SNMP manager
- OpenVPN client
- WEB PLC programming logic

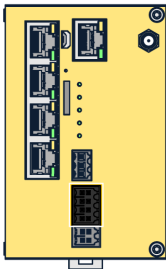
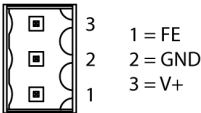
|                                      |                                                                                                                                                                                                                                                                      |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>WLAN</b>                          |                                                                                                                                                                                                                                                                      |
| Wi-Fi standards                      | IEEE 802.11a<br>IEEE 802.11b<br>IEEE 802.11g<br>IEEE 802.11n                                                                                                                                                                                                         |
| Wi-Fi frequencies                    | 2.4 GHz<br>5 GHz                                                                                                                                                                                                                                                     |
| Mode                                 | Wi-Fi client                                                                                                                                                                                                                                                         |
| Security                             | WPA/WPA2-PSK                                                                                                                                                                                                                                                         |
| antenna connection                   | SMA connector                                                                                                                                                                                                                                                        |
| Antenna connection note              | Antenna not included in delivery. Compatible antennas can be found in the list of accessories.                                                                                                                                                                       |
| <b>Serial interface</b>              |                                                                                                                                                                                                                                                                      |
| Signal type                          | 1 × RS232/485 (optional)                                                                                                                                                                                                                                             |
| <b>Standard/Directive conformity</b> |                                                                                                                                                                                                                                                                      |
| Directive                            | 2014/30/EC EMC Directive<br>2014/35/EC Low Voltage Directive<br>2014/53/EC Radio Equipment Directive<br>EN 301 489-1/-7, EN 301 511 R&TTE Directive<br>IEC 60529 Low Voltage Directive<br>IEC 61000-6-2 EMC Immunity Standard<br>IEC 61000-6-3 EMC Emission Standard |
| Approvals                            | CE, RoHS                                                                                                                                                                                                                                                             |
| <b>General Information</b>           |                                                                                                                                                                                                                                                                      |
| Dimensions (W x L x H)               | 65 x 105 x 78 mm                                                                                                                                                                                                                                                     |
| Ambient temperature                  | 0...+55 °C                                                                                                                                                                                                                                                           |
| Storage temperature                  | -20...+60 °C                                                                                                                                                                                                                                                         |
| Relative humidity                    | 5...85 %, non-condensing                                                                                                                                                                                                                                             |
| Protection class                     | IP20                                                                                                                                                                                                                                                                 |
| Insulation class                     | III                                                                                                                                                                                                                                                                  |
| Housing material                     | Powder-coated steel plate, RAL 7021, dull finish                                                                                                                                                                                                                     |
| Mounting                             | DIN rail mounting                                                                                                                                                                                                                                                    |

|                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <p><b>Ethernet Ports</b></p> <p>Ethernet Port ETH0</p> <p>Ethernet cables (examples):</p> <p>RJ45 male connector – RJ45 male connector: RJ45S-RJ45S-4414-2M (order number: 6441423)</p> <p>RJ45 male connector – M12 male connector, 4-pin, D-coded: RSSD-RJ45S-4414-2M (order number: 6441413)</p> <p>RJ45 male connector – M8 male connector, 4-pin: PSGS4M-RJ45S-4414-2M (order number: 6933005)</p> <p>RJ45 male connector – M12 female receptacle, 4-pin, D-coded:RJ45-FKSDD-4414-2M (order number: 6935282)</p>                          | <p>Ethernet RJ45</p>  <p>1 = TX +<br/>2 = TX –<br/>3 = RX +<br/>4 = n.c.<br/>5 = n.c.<br/>6 = RX –<br/>7 = n.c.<br/>8 = n.c.</p> |
|    | <p><b>Ethernet Ports</b></p> <p>Ethernet Ports ETH1.1-1.4, 4 ports switched</p> <p>Ethernet cables (examples):</p> <p>RJ45 male connector – RJ45 male connector: RJ45S-RJ45S-4414-2M (order number: 6441423)</p> <p>RJ45 male connector – M12 male connector, 4-pin, D-coded: RSSD-RJ45S-4414-2M (order number: 6441413)</p> <p>RJ45 male connector – M8 male connector, 4-pin: PSGS4M-RJ45S-4414-2M (order number: 6933005)</p> <p>RJ45 male connector – M12 female receptacle, 4-pin, D-coded:RJ45-FKSDD-4414-2M (order number: 6935282)</p> | <p>Ethernet RJ45</p>  <p>1 = TX +<br/>2 = TX –<br/>3 = RX +<br/>4 = n.c.<br/>5 = n.c.<br/>6 = RX –<br/>7 = n.c.<br/>8 = n.c.</p> |
|  | <p><b>USB Interface</b></p> <p>The USB interface has no functional property</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <p>USB 2.0 B Jack</p>  <p>1 = 5 VDC<br/>2 = D –<br/>3 = D +<br/>4 = ID<br/>5 = GND</p>                                         |
|  | <p><b>SD Card Slot</b></p> <p>For use with microSD card (included in delivery)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                     |



Power Supply

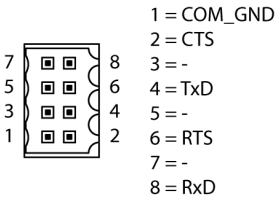
power supply



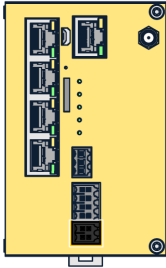
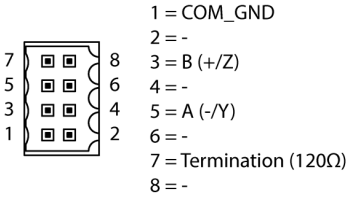
Serial Interfaces

Cable (example):  
RK4.5T-5/S2503 (Ident-No. 7030342)  
Note regarding terminating resistor RS485: external bridge between PIN 5 and PIN 7

Pin Assignment in RS232 Operating Mode



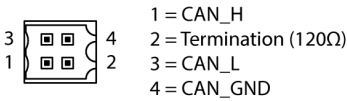
Pin Assignment in RS485 Operating Mode

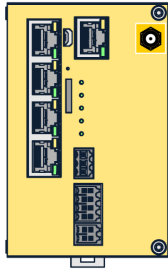


CAN Interfaces

CAN cable (example):  
RKC5701-5M (ID number 6931034)  
Note regarding terminating resistor: external bridge between PIN 1 and PIN 2

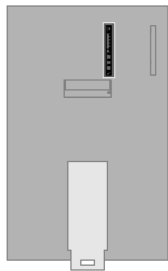
CAN





## Antenna Interface

Antenna not included in delivery



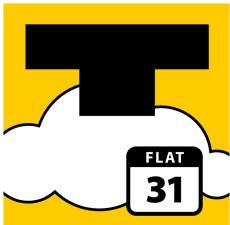
## SIM Card Slot

SIM card in 2FF format

# Module Status LED

| LED    | Color  | Status            | Description                                                                            |
|--------|--------|-------------------|----------------------------------------------------------------------------------------|
| ETH    | Yellow | Illuminated       | Active Ethernet link                                                                   |
|        | Green  | Flashing          | Data traffic                                                                           |
|        |        | Off               | No active Ethernet link                                                                |
| RUN    | Green  | Illuminated       | Program loaded, PLC running                                                            |
|        |        | Flashing (0.5 Hz) | Program loaded, PLC not running                                                        |
|        |        | Flashing (4 Hz)   | PLC task cycle violated at least once                                                  |
|        |        | Off               | No program loaded, PLC not running                                                     |
| Portal | Green  | Illuminated       | Connection to the portal established                                                   |
|        |        | Flashing (0.5 Hz) | Connecting to the portal                                                               |
|        |        | Off               | Connection to the portal not activated                                                 |
| WIFI   | Green  | Illuminated       | Wi-Fi connection established                                                           |
|        |        | Flashing (0.5 Hz) | Establishing Wi-Fi connection                                                          |
|        |        | Flashing (4 Hz)   | Error: The Wi-Fi modem driver is not making further attempts to establish a connection |
|        |        | Off               | Wi-Fi connection is not activated                                                      |
| PWR    | Green  | Illuminated       | Device is ready for operation                                                          |
|        |        | Off               | Device not supplied with power                                                         |

## Accessories

| Type code                           | Ident no. |                                                                                                                                 | Dimension drawing                                                                     |
|-------------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| TCG20-RSC                           | 100002937 | Replacement connector for serial interface.                                                                                     |                                                                                       |
| TCG20-CC                            | 100002936 | Replacement connector for CAN interface.                                                                                        |                                                                                       |
| TCG20-PSC                           | 100002931 | Replacement connector for power supply.                                                                                         |                                                                                       |
| TCG20-Antenna-Short-UMTS            | 100003125 | Antenna for mounting on the device.                                                                                             |                                                                                       |
| TCG20-Antenna-Glass-UMTS-1.5M       | 100003126 | Antenna for adhesive mounting on glass or plastic.                                                                              |                                                                                       |
| TCG20-Antenna-Cabinet-UMTS-1.5M     | 100003127 | Antenna for mounting on the control cabinet.                                                                                    |                                                                                       |
| TCG20-Antenna-Wall-UMTS-3.0M        | 100003128 | Antenna for wall mounting.                                                                                                      |                                                                                       |
| TCS-Portal-Project-Registration-01  | 9940005   | Setup of a project in the Turck Cloud Portal.<br>One-off activation fee per project in the Turck Cloud Portal.                  |    |
| TCS-Portal-Device-Registration-01   | 9940006   | Registration of a device in the Turck Cloud Portal.<br>A one-off registration fee will be charged per registered Cloud Gateway. |   |
| TCS-Portal-Customisation-01         | 9940008   | Customer-specific adaptation of the Turck Cloud Portal                                                                          |  |
| TCS-Portal-Device-Dataflat-Month-01 | 9940007   | Monthly data flat rate per registered device in the Turck Cloud Portal.                                                         |  |

## Accessories

| Type code                 | Ident no. |                                                 | Dimension drawing                                                                   |
|---------------------------|-----------|-------------------------------------------------|-------------------------------------------------------------------------------------|
| TCS-Portal-SMS-Service-01 | 9940009   | Charge per SMS sent from the Turck Cloud Portal |  |