

# Turck Cloud Gateway WLAN/UMTS Gateway TCG20-UMTS-WLAN-5ETH-CRS-01



- 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

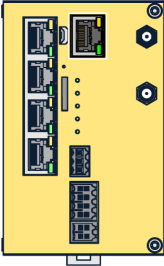

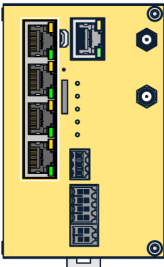

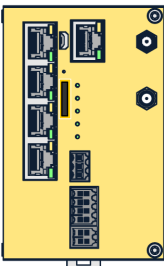
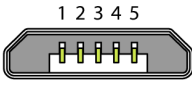
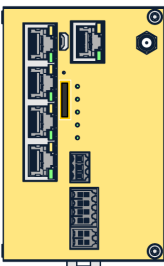
Type	TCG20-UMTS-WLAN-5ETH-CRS-01
ID	100002560
<b>Supply</b>	
Supply voltage	24 VDC
Admissible range	20.4...27.6 VDC
Power dissipation, typical	≤ 4.9 W
<b>System data</b>	
Transmission rate Ethernet	10/100 Mbps
Connection technology Ethernet	5 × RJ45
Web server	Username: admin Password: password
<b>Controller</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

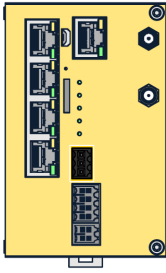
PLC data	
Programming	Web-based EDGE-PLC
WEB PLC	Visual programming editor, runs on the internal web server; I/O Mapping Editor; Up to 8192 I/O values and 1024 portal variables
WEB PLC functions	<p>Up to 2048 functional units, I/O values, portal variables and constants</p> <p>IPO cycle time: 10 to 1000 ms</p> <p>Data type converters: Bool, Uint8, Sint8, Uint16, Sint16, Uint32, Sint32, Float32, Float64, String</p> <p>Binary: AND, OR, XOR</p> <p>Bits and bytes: Extract, Pack, Put Bit, Shift Register, Unpack</p> <p>Controllers: On/Off, P, Shade</p> <p>Messages: Send, Receive</p> <p>Numerical: Subtraction, Multiplication, Division, Minimum, Maximum, Min Acc, Max Acc, Average, Counter, Compare, Signal Limiter, Signal Converter, Signal Smoother, Signal Tracker</p> <p>Special: First Cycle, OpenVPN, Portal Status Storage, Selection, Edge</p> <p>Detection: Demultiplexer, Multiplexer, RS Flipflop, T Flipflop, Trigger, Analog Trigger, Load Profile, State Machines</p> <p>Timing: Local Clock, UTC Clock, Stop Watch, TON, TOFF, TP, Timer, Compare Time, Time Switches</p>
Mobile interface modem	
2G mobile standard	EDGE GPRS GSM
2G frequencies	Quad band: 1900 MHz Quad band: 1800 MHz Quad band: 900 MHz Quad band: 850 MHz
3G mobile standard	HSPA+ UMTS
3G frequencies	Seven band: 2100 MHz Seven band: 1900 MHz Seven band: AWS, 1700 MHz Seven band: 900 MHz Seven band: 850 MHz Seven band: 800 MHz
SIM card format	Mini-SIM (2FF)
Antenna interface	SMA connector
Antenna connection note	Antenna not included in delivery. Compatible antennas can be found in the list of accessories.
Wi-Fi modem	
Wi-Fi standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n
Wi-Fi frequencies	2.4 GHz 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.

Serial interface	
Signal type	1 × RS232/485 (optional)

Standard/Directive conformity	
Directive	2014/30/EC EMC Directive 2014/35/EC Low Voltage Directive 2014/53/EC Radio Equipment Directive EN 301 489-1/-7, EN 301 511 R&TTE Directive IEC 60529 Low Voltage Directive IEC 61000-6-2 EMC Immunity Standard IEC 61000-6-3 EMC Emission Standard
Approvals	CE, RoHS

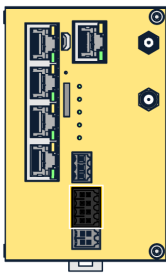
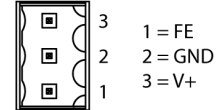
General Information	
Dimensions (W x L x H)	65 x 105 x 78 mm
Ambient temperature	0...+55 °C
Storage temperature	-20...+60 °C
Relative humidity	5...85 %, non-condensing
Protection class	IP20
Insulation class	III
Housing material	Powder-coated steel plate, RAL 7021, dull finish
Mounting	DIN rail mounting

	<p><b>Ethernet Ports</b>          Ethernet Port ETH0          Ethernet cables (examples):          RJ45 male connector – RJ45 male connector: RJ45S-RJ45S-4414-2M (order number: 6441423)          RJ45 male connector – M12 male connector, 4-pin, D-coded: RSSD-RJ45S-4414-2M (order number: 6441413)          RJ45 male connector – M8 male connector, 4-pin: PSGS4M-RJ45S-4414-2M (order number: 6933005)          RJ45 male connector – M12 female receptacle, 4-pin, D-coded: RJ45-FKSDD-4414-2M (order number: 6935282)</p>	<p>Ethernet RJ45</p>  <p>12345678</p> <ul style="list-style-type: none"> <li>1 = TX +</li> <li>2 = TX -</li> <li>3 = RX +</li> <li>4 = n.c.</li> <li>5 = n.c.</li> <li>6 = RX -</li> <li>7 = n.c.</li> <li>8 = n.c.</li> </ul>
	<p><b>Ethernet Ports</b>          Ethernet Ports ETH1.1-1.4, 4 ports switched          Ethernet cables (examples):          RJ45 male connector – RJ45 male connector: RJ45S-RJ45S-4414-2M (order number: 6441423)          RJ45 male connector – M12 male connector, 4-pin, D-coded: RSSD-RJ45S-4414-2M (order number: 6441413)          RJ45 male connector – M8 male connector, 4-pin: PSGS4M-RJ45S-4414-2M (order number: 6933005)          RJ45 male connector – M12 female receptacle, 4-pin, D-coded: RJ45-FKSDD-4414-2M (order number: 6935282)</p>	<p>Ethernet RJ45</p>  <p>12345678</p> <ul style="list-style-type: none"> <li>1 = TX +</li> <li>2 = TX -</li> <li>3 = RX +</li> <li>4 = n.c.</li> <li>5 = n.c.</li> <li>6 = RX -</li> <li>7 = n.c.</li> <li>8 = n.c.</li> </ul>
	<p><b>USB Interface</b>          The USB interface has no functional property</p>	<p>USB 2.0 B Jack</p>  <p>1 2 3 4 5</p> <ul style="list-style-type: none"> <li>1 = 5 VDC</li> <li>2 = D -</li> <li>3 = D +</li> <li>4 = ID</li> <li>5 = GND</li> </ul>
	<p><b>SD Card Slot</b>          For use with microSD card (included in delivery)</p>	



### Power Supply

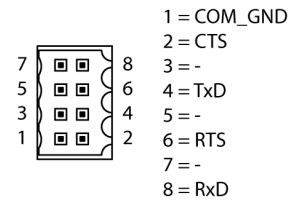
power supply



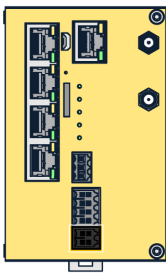
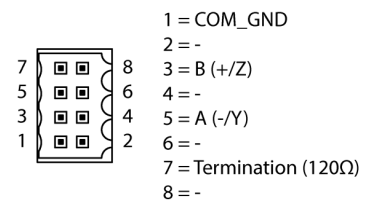
### Serial Interfaces

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



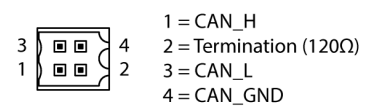
Pin Assignment in RS485 Operating Mode

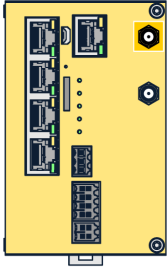


### CAN Interfaces

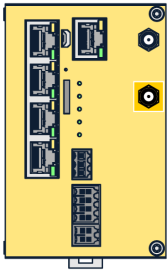
CAN cable (example):  
 RKC5701-5M (ID number 6931034)  
 Note regarding terminating resistor: external bridge between PIN 1 and PIN 2

CAN

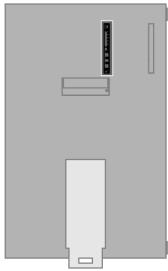




**Antenna Interface**  
Antenna not included in delivery



**Antenna Interface**  
Antenna not included in delivery



**SIM Card Slot**  
SIM card in 2FF format

**Module Status LED**





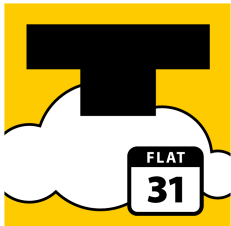
LED	Color	Status	Description
<b>ETH</b>	Yellow	Illuminated	Active Ethernet link
	Green	Flashing	Data traffic
		Off	No active Ethernet link
<b>RUN</b>	Green	Illuminated	Program loaded, PLC running
		Flashing (0.5 Hz)	Program loaded, PLC not running
		Flashing (4 Hz)	PLC task cycle violated at least once
		Off	No program loaded, PLC not running
<b>Portal</b>	Green	Illuminated	Connection to the portal established
		Flashing (0.5 Hz)	Connecting to the portal
		Off	Connection to the portal not activated
<b>GSM</b>	Green	Illuminated	Cellular connection established
		Flashing (0.5 Hz)	Cellular connection being established
		Flashing (4 Hz)	Error: The cellular modem driver is not making further attempts to establish a connection
		Off	Cellular connection is not activated
<b>WIFI</b>	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
<b>PWR</b>	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.	



## Accessories

Type code	Ident no.		Dimension drawing
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. 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. 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	