

Connectivity Gateway CG 3.2



The CG 3.2 is the new Bosch Motorsport connectivity gateway for global operation: two worldwide 5G-SA modems with 4G fallback capability within a single device, four eSIMs and two 4FF SIM slots for simultaneous connection to two distinct Mobile Network Operators, one DR GNSS dual-band multi-constellation receiver, a WiFi link and 16GB internal memory for data logging.

The combination of CG 3.2 with RaceConnect provides a highly flexible solution to manage from remote a race-cars fleet, optimise live data analysis, process and distribute data to multiple users and 3rd Party cloud\desktop applications for local\remote use.

The adoption of CG 3.2 allows for plug&play setup with the Bosch and Motec controllers, displays and loggers, but data can be RXed\TXed also from\to 3rd Party in-vehicle's devices; its integrated network switch allows VLANs for multiple systems to be connected to the device simultaneously and securely: e.g. scrutineering and chassis/engine loggers.

Bi-directional communication enables Race Control Marshalling, scrutineering, remote Fleet Management, FOTA and Configuration Over The Air, while new transmission strategies will maximise the data throughput also in challenging RF environment conditions.

To be noted that CG 3.2 is already compliant with 5G Slicing, 5G Private and 5G Hybrid networks.

Provided with a powerful 2GHz quad-core CPU and a 2 TOPS NPU, the new Bosch Connectivity Gateway will also allow on-board ML & AI data\images processing when connected to IP cameras, for example.

- ▶ 1 device for world-wide use
- ▶ 2 simultaneous connections to distinct Mobile Operators
- ▶ Bi-directional communication capability
- ▶ Dual band multi-constellation Dead Reckoning GNSS
- ▶ WiFi 6, 4 Ethernet (including 1 Automotive Ethernet),
1 CAN-FD, 1 RS232, 16 GB internal storage memory

In an IP67 light and robust aluminium enclosure, rated for the harsh motorsport environment, CG 3.2 integrates also super-capacitors to remain operational up to 30s in case the main power source is detached.

Finally, this same device can be operated in the pit-stands as "receiver" to directly get the telemetry data in case Internet access to RaceConnect is not available.

NOTE: all the CG 3.2 functionalities described in this datasheet (simultaneous use of 2 MNOs, Configurable Radio Transmission Strategies, DR GNSS, datalogging, Wi-Fi, FW and Calibration OTA) will be gradually introduced starting from 2026 Q1. Please contact Bosch Motorsport for further details.

Application

Configuration	Bosch RaceConnect Bosch RaceCon
Data Transmission	Bi-directional* *based on series regulations
Configurable Radio Transmission Strategies	Best Effort, Backfill, Redundant, with and w/o Data Priorities
Mobile Network Operators (MNO)	Multiple Global Carriers Up to 2 simultaneous MNOs
SIM Cards	4 eSIMs and 2 4FF SIM slots 5G Private Network ready
GNSS	Multi-band multi-constellation Dead-Reckoning
WiFi	WiFi 6, Single Antenna
Data Logger	RaceCon configurable 16 GB storage memory

Technical Specifications

Mechanical Data

Max. size (incl. connectors)	158 x 117 x 31 mm
Weight	430 g
Operating temperature (internal)	-20 to 85°C
Max. vibrations	Vibration profile 1 (see www.bosch-motorsport.com)
IP class	67

Wired Communications

3 Ethernet	100BaseTX with managed switch for VLANs
1 Automotive Ethernet	100\1000BaseT1
1 CAN-FD	Configurable in RaceCon Compliant with CAN 2.0
1 RS232	19.2, 57.6 and 115.2 kB/sec

Wireless Communications

2 5G SA/NSA channels	Both with diversity and 4G fallback
1 WiFi 6	Single antenna, no MIMO
1 GNSS	L1, L5; multi-constellation; 10 Hz; DR optionally enabled

Electrical Data

Supply voltage range	8 to 18 V
Current consumption (typ.)	0.7 A at 13.4 V
CPU	Quad-core 1.8 GHz Cortex
NPU	2.3 TOPS
Keep Alive	30 sec w/ internal super-caps
6 temperature sensors	
12 in-chip temperature sensors	
1 internal 3 axis accelerometer	

External Antenna Connections

5G (1 & 2)	4 SMA sockets (gold)
GNSS	1 SMA socket (gold)
WiFi	1 SMA reverse polarity socket (silver)

Connectors and Wires

Mating connector	AS612-35SN
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PIN Configuration

PIN	TYPE	LABEL	DESCRIPTION
A-1	G OUT	COMSCR	Ethernet Cable Screen
A-2	I/O	ETHA_TRX-	Ethernet 100\1000Base-T1 (SPE)
A-3	I/O	ETH3_TXN	Ethernet 100Base-TX

PIN	TYPE	LABEL	DESCRIPTION
A-4	I/O	ETH3_RXP	Ethernet 100Base-TX
A-5	I/O	ETH3_RXN	Ethernet 100Base-TX
A-6	I/O	ETH2_TXP	Ethernet 100Base-TX
A-7	I/O	ETH2_RXP	Ethernet 100Base-TX
A-8	I/O	ETH1_TXP	Ethernet 100Base-TX
A-9	I/O	ETH1_RXN	Ethernet 100Base-TX
A-10	I/O	ETH1_RXP	Ethernet 100Base-TX
A-11	I/O	CAN1_H	CAN-FD bus (5 Mbps)
A-12	I/O	RESERVED	
A-13	G	GND	GND for Pwr Supply
A-14	V	V_BAT	Pwr Supply: 8 to 18 V
A-15	I/O	ETHA_TRX+	Ethernet 100\1000Base-T1 (SPE)
A-16	I/O	ETH3_TXP	Ethernet 100Base-TX
A-17	I/O	ETH2_TXN	Ethernet 100Base-TX
A-18	I/O	ETH2_RXN	Ethernet 100Base-TX
A-19	I/O	ETH1_RXN	Ethernet 100Base-TX
A-20	I/O	CAN1_L	CAN-FD bus (5 Mbps)
A-21	I/O	RS232_RX	RS232 – 12 V (256 kbps)
A-22	I/O	RS232_TX	RS232 – 12 V (256 kbps)

Legal Restrictions

Generally blocked are direct and indirect business involving high risk destinations, including Russia, Belarus, Cuba, Iran, North Korea, Syria, Libya, Afghanistan, and certain non-governmental controlled Ukrainian regions. Radio type approval is not possible in the following countries: Nicaragua, Venezuela.
This list may change as geopolitics evolve.

Ordering Information

Connectivity Gateway CG 3.2

Order number **F02U.V03.684-02**

1y Dataplan 1 GB/month

Order number **BG02.000.070**

1y Dataplan 4 GB/month

Order number **BG02.000.071**

1y Dataplan 12 GB/month

Order number **BG02.000.072**

FW & Config Over the Air

Order number **BG02.000.074**

Extra DL for CG 3.2

Order number **BG02.000.069**

1y Pit-stand RX Dataplan

Order number **BG02.000.073**

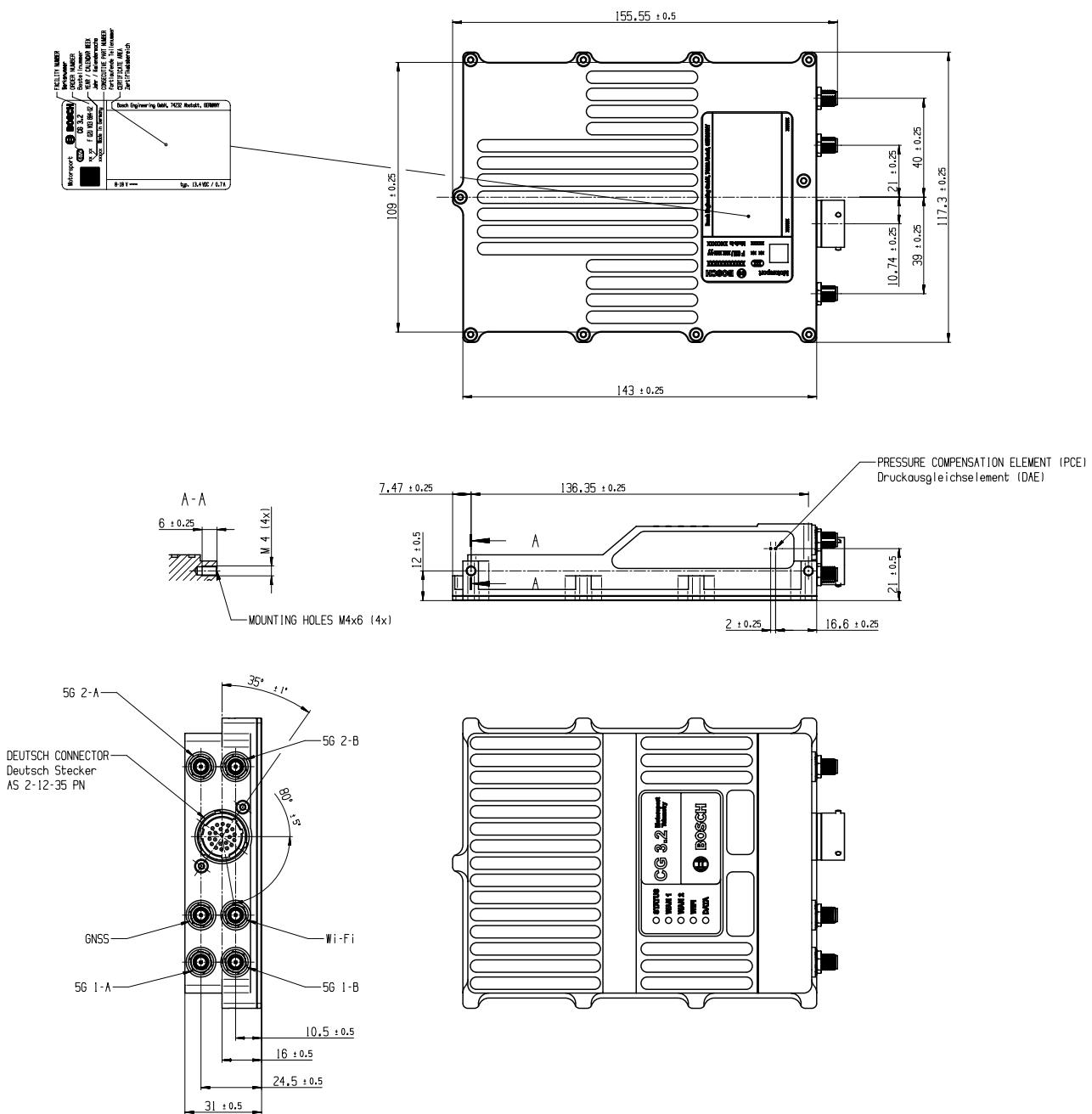
CG 3.2 Pit stand harness

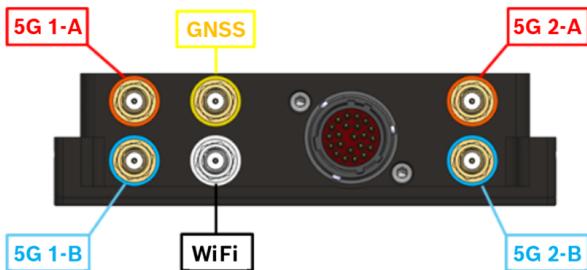
Order number **F02U.V0U.486-01**

CG 3.2 Bench loom

Order number **F02U.V0U.487-01**

Dimensions



Antennas Connection

5G 1-A	Main Antenna for Modem 1
5G 1-B	Diversity Antenna for Modem 1
5G 2-A	Main Antenna for Modem 2
5G 2-B	Diversity Antenna for Modem 2
GNSS	Antenna for GNSS
WiFi	Antenna for WiFi

Note: for the CG 3.2 antenna types and installation, please refer to the relative datasheet.

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