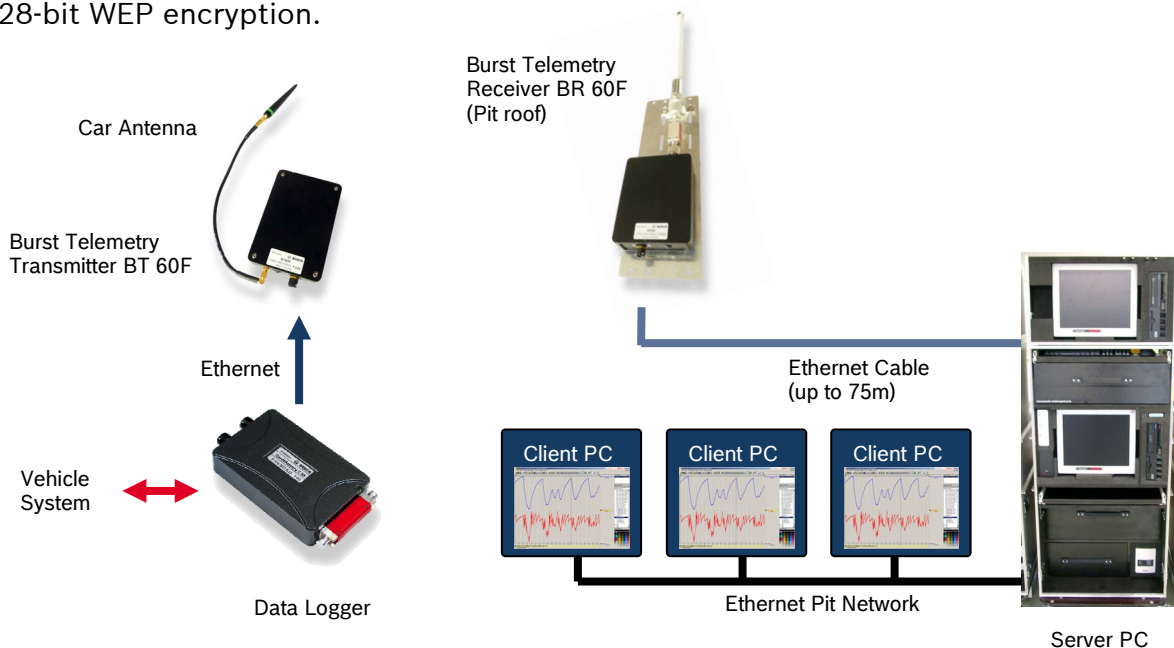


## Burst Telemetry System Overview

The Bosch Motorsport Burst Telemetry System ideally complements the FM 40 long range telemetry. High-resolution measurement data, as stored in the data logger of the data acquisition system, is transferred automatically to the pit server PC when the car passes the pits or the car is in the garage. This gives two advantages: high resolution measurement data is already available in the pit network while the car is still out on track, enabling instant analysis and saving valuable track time. While the car is in the garage, the burst telemetry system gives a significant handling advantage: measurement data is transferred automatically to the pit server PC, e.g. after engine test runs.

The RF system operates in the license-free 5.1 ... 5.8 GHz ISM band. The 32 selectable non-overlapping channels allow great flexibility in channel selection. The robust OFDM transmission scheme in combination with the high-quality band filter yield excellent performance even in environments with high RF noise. Typically good data reception can be achieved in a radius of approx. 300 m around the pit station, depending on antenna location and track topology. If necessary, reception range can be extended by an optional remote receiver station.

During the running lap, the data acquisition system stores engine and chassis data in non-volatile memory. When a laptrigger is received, the current file is closed and data is prepared for burst transmission. As soon as the car reaches the reception range of the pit receiver, data transmission starts automatically. An intelligent algorithm chooses the lapfile to transmit and resumes transmission if the link has been interrupted. Typically 6 Mbytes of measurement data can be transferred per lap during a race. The bi-directional transmission scheme ensures error-free reception. Privacy of measurement data is ensured by 128-bit WEP encryption.



## Burst Telemetry System

### Car Module BT 60F

The BT 60F car module is the vehicle component of the Bosch Motorsport Burst Telemetry System. The compact and lightweight unit receives measurement data via a 100 MBit Ethernet connection from the data acquisition system and communicates with the pit module over the RF antenna. The system operates in the 5.1 ... 5.8 GHz ISM band and offers 32 non-overlapping channels. An internal high quality band filter eliminates out-of-band RF noise, which enables fully encrypted high speed data transmission at 12 MBit under race conditions. Online diagnosis and performance monitoring is possible via the data acquisition system.



Mechanical Data	
Size	139 x 96 x 22 mm
Weight	370 g
Antenna Connector	SMA(f)
Interface Connector	AS008-35SA (Deutsch)

Conditions for Use	
Max. Vibration	Vibration profile 1 (see Appendix or <a href="http://www.bosch-motorsport.com">www.bosch-motorsport.com</a> )
Temperature range	-20 ... +85 °C
Max. power consumption	3.5 W
Radio air interface	IEEE 802.11a
Wireless approvals	FCC Part 15.247, IC RS210, CE
Encryption	WEP/WPA

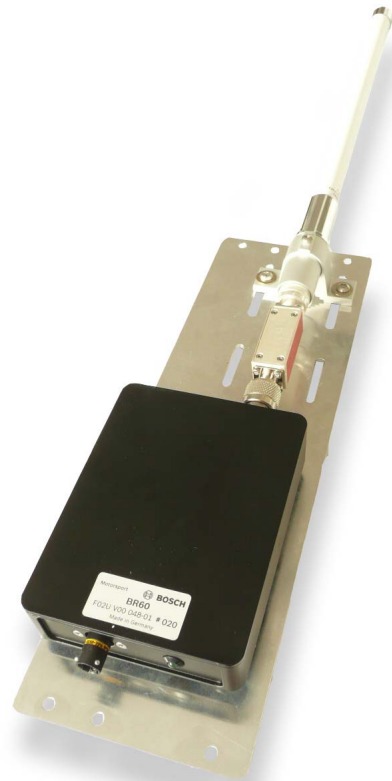
Content BT60F Set	
Radio modem	<b>F 02U V00 039-02</b>
Antenna 5 dBi	<b>F 02U V00 442-01</b>
Antenna socket	<b>F 02U V00 041-01</b>
Antenna cable	<b>F 02U V00 042-01</b>

Electrical Data	
Radio modem	Full duplex (bidirectional)
Transmission power	+26 dBm
Receiver sensitivity	-91 dBm @ 12 Mbps
Frequency range	5.1 ... 5.8 GHz ISM Band
Air data rate	typ. 12 (max. 54) Mbps
Data interface	Ethernet TP10/100
Antenna	Gain = 3 dBi; omnidirectional
Power supply	8 ... 18 V
Rated current	0.25 A @ 12 VDC

Part Number	
BT 60F Set	<b>F 02U V00 038-02</b>

## Pit Module BR 60F

The BR 60F pit module is the stationary component of the Bosch Motorsport Burst Telemetry System. The high gain omnidirectional antenna is mounted directly at the receiver, minimizing cable loss. The weatherproof housing allows outdoor mounting of the unit, e.g. on the pit roof. 12 V DC power and 100 MBit Ethernet connection to the pit server PC is supplied via the connecting cable, which can be up to 75m long. The system operates in the 5.1 ... 5.8 GHz ISM band and offers 32 non-overlapping channels. The high quality band filter eliminates out-of-band RF noise. This enables fully encrypted high speed data transmission at 12 MBit under race conditions. A directional antenna is available as an option.



Mechanical Data	
Size (overall incl. antenna)	705 x 145 x 47 mm
Weight	1,250 g
Interface Connector	AS008-35SA (Deutsch)

Conditions for Use	
Temperature range	-20 ... +85 °C
Max. power consumption	3.5 W
Radio air interface	IEEE 802.11a
Wireless approvals	FCC Part 15.247, IC RS210, CE
Encryption	WEP/WPA

Content BR 60F Set	
Radio modem	<b>F 02U V00 048-01</b>
Antenna	<b>F 02U V00 131-01</b>
Antenna filter	<b>F 02U V00 132-01</b>
Fitting system	<b>F 02U V00 133-01</b>
Interface cable to the pit PC	<b>B 261 209 744-01</b>

Electrical Data	
Radio modem	Full duplex (bidirectional)
Transmission power	+26 dBm
Receiver sensitivity	-91 dBm @ 12 Mbps
Frequency range	5.1 ... 5.8 GHz ISM Band
Air data rate	typ. 12 (max. 54) Mbps
Data interface	Ethernet TP10/100
Antenna	Gain = 10 dBi; omnidirectional
Power supply	8 ... 18 V
Rated current	0.25 A @ 12 VDC

Part Number	
BR 60F Set	<b>F 02U V00 047-02</b>