

QIC GPS • Compact GPS Receiver with CAN Interface



GPS Position as CAN Identifiers: The QIC GPS Mouse

The **QIC GPS** module is a 21-channel receiver for GPS position data. Data output takes place continuously with a rate of 1Hz to the CAN bus (IDs 1800 to 1803). Positional data (latitude and longitude) are transmitted separately in degrees, minutes and seconds. Date, time, altitude, speed, and heading data are also available. The module can be used as a terminating module in a chain of QIC modules or stand-alone. Voltage supply is via the QIC system serial connection or externally by means of a separate cable. The durable and waterproof (IP 67) GPS receiving antenna can be attached problem-free, by means of a magnetic foot, either inside or outside of the vehicle.

Message Format on the CANbus

CAN ID	Name	Position (Format)	Range of Values	Units (Result)
Identifier 1800	Time Day	Byte 0 (unsigned char)	1 ... 31	""
<i>Msg1</i>	Time Month	Byte 1 (unsigned char)	1 ... 12	""
	Time Year	Byte 2 (unsigned char)	0 ... 99	""
	Time Hour	Byte 3 (unsigned char)	0 ... 23	""
	Time Minute	Byte 4 (unsigned char)	0 ... 59	""
	Time Second	Byte 5 (unsigned char)	0 ... 59	""
	Altitude	Byte 6, 7 (LSB, MSB)	0 ... 17999	"m" (1 m)
Identifier 1801	Latitude Degrees	Byte 0 (Bit 0 ...7)	-90 ... +90	"Deg" (1°)
<i>Msg2</i>	Latitude Minutes	Byte 1 (Bit 8 ... 13)	0 ... 59	"Min" (1')
	Latitude Seconds	Byte 2, 3 (Bit 16 ... 28)	0 ... 5999	"Sec" (0.01")
	Longitude Degrees	Byte 4 (Bit 32 ... 40)	-180 ... +180	"Deg" (1°)
	Longitude Minutes	Byte 5 (Bit 41 ... 46)	0 ... 59	"Min" (1')
	Longitude Seconds	Byte 6, 7 (Bit 48 ... 60)	0 ... 5999	"Sec" (0.01")
Identifier 1802	Speed	Byte 0, 1 (LSB, MSB)	0 ... 9999	"km/h" (0.1 km/h)
<i>Msg3</i>	Heading	Byte 2, 3 (LSB, MSB)	0 ... 3599	"Deg" (0.1°)
Identifier 1803	Number of Active Satellites	Byte 0 (Bit 0 ... 3)	0 ... 12	""
<i>Msg4</i>	Type	Byte 0 (Bit 4 ... 7)	0	""
	Number of Visible Satellites	Byte 1 (unsigned char)	0 ... 16	""
	PDOP (vertical accuracy)	Byte 2, 3 (LSB, MSB)	0 ... 999	"m" (0.1 m)
	HDOP (horizontal accuracy)	Byte 4, 5 (LSB,MSB)	0 ... 999	"m" (0.1 m)
	VDOP (positional accuracy)	Byte 6, 7 (LSB, MSB)	0 ... 999	"m" (0.1 m)

Technical Data

Receiver method	21 channel (parallel)
Receiver frequency	1575.42 MHz (L1 Band)
Measurement rate	1 Hz
Data format	NMEA 0183 protocol-channel via CAN ID's (Identifiers 1800 ... 1803, factory set ^(*))
Terminating resistor	120 Ω (integrated)
Power supply voltage	7 to 60 Vdc (80 mA at 12 V)
Operating power	1 W
Operating Temperature	-30°C to +70°C

^(*) Can be adjusted ex factory also customized