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GPS LOCATION TRANSDUCER

MB-GPS-1

WARRANTY. The F&F products are covered by a warranty of the 24 months from the date of purchase. Effective only with proof of purchase.
Contact your dealer or directly with us.
More information how to make a compliant can be found on the website:
www.fif.com.pl/reklamacje

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Do not dispose of this device in the trash along with other waste! According to the Law on Waste, electro coming from households free of charge and can give any amount to up to that end point of collection, as well as to store the occasion of the purchase of new equipment (in accordance with the principle of old-for-new, regardless of brand). Electro thrown in the trash or abandoned in nature, pose a threat to the environment and human health.

Purpose

The MB-GPS-1 transducer, based on the received signal, provides current data for its location:
* geographical coordinates (length/width);
* data (year/month/day);
* time (hour/minutes/seconds);
* altitude (meters above the sea level).

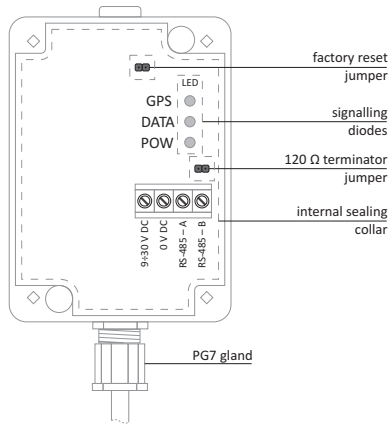
Functioning

The device is equipped with the location module of the GPS (Global Positioning System) and the GLONASS system (Russian: ГЛОНАСС, Глобальная навигационная спутниковая система, Globalnaja nawigacionnaja sputnikowaja sistiema).
The device, based on one of these signals, provides current data for its location: geographical coordinates (length and width), date and time.

If the satellite signal is lost, the device continues the countdown in the internal clock. When the satellite signal is re-established, the internal clock time is synchronized to the received value. This operation allows to synchronize PCZ-527 time with GPS/GLONASS reference clocks and set clock parameters precisely, eliminating the need to manually enter the location.

The MB-GPS-1 transducer cannot be used in navigation systems.

Description of the device



Diode designations

[GPS]	
ON	GPS/GLONASS signal received correctly
OFF	no GPS/GLONASS signal
[DATA]	
flashing	communication with the module
OFF	no communication
[POW]	
ON	power supply
OFF	no power supply

All elements visible after removing the top cover.

Technical data

power supply	9÷30 V DC
maximum current consumption	40 mA
port	RS-485
communication protocol	Modbus RTU
working type	SLAVE
communication parameters	
speed (adjustable)	1 200÷115 200 bit/s
data bits	8
stop bits	1/1,5/2
parity	EVEN/ODD/NONE
address	1÷247
power consumption	0.3 W
working temperature	-40÷70°C
terminal	2.5 mm² screw terminals
tightening torue	0.4 Nm
dimensions	60×85×35 mm
mounting	surface
protection level	IP65

CE declaration

A copy of the CE declaration is available to download from the website: www.fif.com.pl from product subpage.

D190102

Modbus registers

R reading only
R/W reading and writing
R/PW reading and protected writing (writing possible only in configuration mode)

Registers are read with the 0x03 commands and written with the 0x06 command.

Address	Mode	Command description
0x00	R	1 – if GPS/GLONASS signal is correctly received 0 – if there is no signal
0x01	R	Time (in seconds) since GPS/GLONASS signal loss [LSW] (only counts if satellite signal was received at least once)
0x02	R	Time (in seconds) since GPS/GLONASS signal loss [MSW] (only counts if satellite signal was received at least once)
0x10	R	Current UTC time – hours (calculated from the internal RTC clock if there is no satellite signal)
0x11	R	Current UTC time – minutes (calculated from the internal RTC clock if there is no satellite signal)
0x12	R	Current UTC time – seconds (calculated from the internal RTC clock if there is no satellite signal)
0x20	R	Current date – days (calculated from the internal RTC clock if there is no satellite signal)
0x21	R	Current date – months (calculated from the internal RTC clock if there is no satellite signal)
0x22	R	Current date – years (calculated from the internal RTC clock if there is no satellite signal)
0x23	R	Current date – day of the week [1-7] (calculated from the internal RTC clock if there is no satellite signal)

Address	Mode	Command description
0x30	R	Last time received from GPS/GLONASS – hours (does not change if there is no satellite signal)
0x31	R	Last time received from GPS/GLONASS – minutes (does not change if there is no satellite signal)
0x32	R	Last time received from GPS/GLONASS – seconds (does not change if there is no satellite signal)
0x40	R	Last date received from GPS/GLONASS – days (does not change if there is no satellite signal)
0x41	R	Last date received from GPS/GLONASS – months (does not change if there is no satellite signal)
0x42	R	Last date received from GPS/GLONASS – years (does not change if there is no satellite signal)
0x43	R	Last date received from GPS/GLONASS – day (does not change if there is no satellite signal)
0x50	R	Latitude ['N' or 'S']
0x51	R	Latitude – degrees
0x52	R	Latitude – minutes
0x53	R	Latitude – seconds
0x54	R	Latitude – decimal degrees [DD] (Float [LSW])
0x55	R	Latitude – decimal degrees [DD] (Float [MSW])
0x60	R	Longitude ['E' or 'W']
0x61	R	Longitude – degrees
0x62	R	Longitude – minutes
0x63	R	Longitude – seconds

Address	Mode	Command description
0x64	R	Longitude – decimal degrees [DD] (Float [LSW])
0x65	R	Longitude – decimal degrees [DD] (Float [MSW])
0x100	R/W	Modbus address (1÷247)
0x101	R/W	Transmision rate: 0 – 1 200 bps 1 – 2 400 bps 2 – 4 800 bps 3 – 9 600 bps 4 – 19 200 bps 5 – 38 400 bps 6 – 57 600 bps 7 – 115 200 bps
0x102	R/W	Parity control: 0 – BRAK 1 – EVEN 2 – ODD
0x103	R/W	Number of stop bits: 0 – 1 bit 1 – 1,5 bita 2 – 2 bity
0x104	R/W	Entering 1 restores the default configuration
0x400	R	Operating time – seconds [LSW]
0x401	R	Operating time – seconds [MSW]

Address	Mode	Command description
		Writing into registers 0x402, 0x403, 0x404 is active for 5 minutes after switching on the power supply, a configuration jumper must be installed and the configuration mode enabled.
0x402	R/PW	Serial number (High)
0x403	R/PW	Serial number (Low)
0x404	R/PW	Date of production: 5 bits – day 4 bits – month 7 bits – year (excluding 2000)

Address	Mode	Command description
0x405	R	Program version
0x406÷0x40B		Device identifier – string „F&F_MB-GPS-1"
0x406	R	„F&"
0x407	R	"F_"
0x408	R	"MB"
0x409	R	"-G"
0x40A	R	"PS"
0x40B	R	"-1"
0x40F	R	Configuration jumper status (1 – on, 0 – off)