

Comparison table of telemetry and location modules, expanders and converters







MODULE	MT-025 Telemetry Module	MT-051 Telemetry Module	MT-151 LED v2 Telemetry Module	MT-151 HMI v2 Telemetry Module	MT-156 HMI Telemetry Module	MT-331 Telemetry Module
FEATURES						
Technology						
4G (LTE)	Cat 1	–	Cat 1	Cat 1	Cat 1	Cat 1
3G	–	–	YES	YES	YES	YES
2G	YES	YES	YES	YES	YES	YES
LoRa	–	–	–	–	–	–
BLE	–	–	–	–	–	–
GPS	–	–	–	–	–	–
Ethernet	–	–	10/100	10/100	10/100	–
SMS	YES	YES	YES	YES	YES	YES
Hardware						
Dimensions (L x W x H) in mm	70x86x58	75/125/175x125x75	157x86x58	157x86x58	157x86x58	124x63x30
Binary inputs	0 – 4 ¹	5	16 – 28 ¹	16 – 28 ¹	0 – 12 ¹	0 – 8 ¹
Binary outputs	4	–	0 – 12 ¹	0 – 12 ¹	0 – 12 ¹	0 – 4 ¹
Counter inputs	0 – 4 ¹	5	0 – 4 ¹	0 – 4 ¹	–	0 – 6 ¹
Analog inputs	2	–	6	6	10	0 – 2 ¹
1-Wire input	1	1 ²	–	–	1	1
Integrated sensor T/H	–	T	T	T	–	T
Ethernet ports	–	–	1	1	1	–
Serial ports RS232/422/485/TTL	1 (0/0/1/0) ²	–	2 (2/0/1/0) ²	2 (2/0/1/0) ²	2 (2/0/1/0) ²	–
M-bus interface	–	–	–	–	1	–
Voice channel	–	–	–	–	–	–
LED indicators/display	YES/–	YES/–	YES/–	YES/YES	YES/YES	YES/–
Real Time Clock (RTC)	YES	YES	YES	YES	YES	YES
Removable terminal blocks	YES	YES	YES	YES	YES	YES
GSM antenna connector	1xSMA	1xSMA	1xSMA	1xSMA	1xSMA	1xSMA
GPS antenna	–	–	–	–	–	–
SIM cards	SIM/MIM ²	SIM/μSIM/MIM ²	2xSIM/MIM ²	2xSIM/MIM ²	2xSIM/MIM ²	SIM/MIM ²
Mounting options	DIN rail	surface mounting	DIN rail	DIN rail	DIN rail	DIN rail
Housing material	ABS	ABS	ABS	ABS	ABS	aluminium
Supply voltage (V DC)	9,5–30	9–30 ²	10,8–30	10,8–30	10,8–30	9–30/PV
Power supply for external sensors (V DC)	–	–	–	–	–	7 – 24
Internal battery supply	–	3/6/9xR20	–	–	–	–
Rechargeable battery int./ext.	–/–	–/–	–/YES	–/YES	–/YES	YES/–
Operating temperature (°C)	-25...+55	-20...+60	-20...+65	-20...+65	-20...+65	0...+55 ³
Protection class	IP40	IP67	IP40	IP40	IP40	IP40
Functionality						
Send/receive SMS	YES	YES	YES	YES	YES	YES
Send SMS do defined group	YES	–	–	–	–	YES
Configuration by SMS	YES	–	–	–	–	YES
WebGUI	–	–	–	–	–	–
Data packet sending	YES	YES	YES	YES	YES	YES
Unsolicited messaging	YES	YES	YES	YES	YES	YES
User programming (lines of code limit)	–	–	5000	5000	5000	–
Modbus RTU (master/slave)	–	–	YES/YES	YES/YES	YES/YES	–
Modbus TCP (client/server)	–	–	YES/YES	YES/YES	YES/YES	–
MQTT client	–	–	–	–	–	YES
Open/Open2	YES/–	–/–	YES/YES	YES/YES	–/–	YES/–
UDP Standard	–	–	YES	YES	YES	–
Low power operation modes	–	YES	–	–	–	YES
Datalogger	YES	YES	YES	YES	YES	YES
MT Data Provider compatibility	YES	YES	YES	YES	YES	YES
NTP	Client	–	Client	Client	Client	Client
FOTA (Firmware Over The Air)	YES	YES	YES	YES	YES	YES
Remote configuration over network	YES	YES	YES	YES	YES	YES

1/ number of inputs/outputs is configurable

2/ option

3/ or -20 ... 55°C - depending on the version of the internal battery

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MODULE	MT-512 Telemetry Module	MT-651 Telemetry Module	MT-652 Telemetry Module	MT-713 v.3 Telemetry Module	ML-231 Location Module	ML-941 Location Module
FEATURES						
Technology						
4G (LTE)	–	–	–	Cat M1/NB1	–	–
3G	–	YES	YES	YES	–	–
2G	YES	YES	YES	YES	YES	YES
LoRa	–	–	–	–	–	–
BLE	–	YES ²	YES ²	YES ²	–	–
GPS	–	YES	YES	YES ²	YES	YES
Ethernet	–	–	–	–	–	–
SMS	YES	YES	YES	YES	YES	YES
Hardware						
Dimensions (L x W x H) in mm	105x86x58	190x75x55	190x75x55	122x120x65/95	112x65x23,5	62,5x33x11
Binary inputs	8	2	2	0 – 5 ¹	5	–
Binary outputs	2	2	2	2	2	1
Counter inputs	8	–	–	0 – 5 ¹	2 ¹	–
Analog inputs	–	6	6	3	2	–
1-Wire input	–	–	–	–	2	–
Integrated sensor T/H	–	T	T	T	T	T
Ethernet ports	–	–	–	–	–	–
Serial ports RS232/422/485/TTL	1 (1/0/1 ² /0)	1 (0/0/1/0)	1 (0/0/1/0)	1 (0/0/1/0) ²	1 (0/0/0/1) ²	1 (0/0/0/1) ²
M-bus interface	–	–	–	–	–	–
Voice channel	YES	–	–	–	–	–
LED indicators/display	YES/–	YES/–	YES/–	YES/–	YES/–	YES/–
Real Time Clock (RTC)	YES	YES	YES	YES	YES	YES
Removable terminal blocks	YES	YES	YES	YES	–	–
GSM antenna connector	1xSMA	1xSMA	1xSMA	1xSMA	1xSMA	–
GPS antenna	–	internal	1xSMA	1xMCX ²	1xMCX	–
SIM cards	SIM	2xSIM	2xSIM	SIM/MIM ²	SIM/MIM ²	SIM
Mounting options	DIN rail	DIN rail	DIN rail	surface mounting	surface mounting	–
Housing material	ABS	ABS	ABS	ABS	ABS	–
Supply voltage (V DC)	9–30	7–30	7–30	9–30 ²	9–30	2–5
Power supply for external sensors (V DC)	–	–	–	0 – 5/15 ² /24 ²	–	–
Internal battery supply	–	YES	–	3/6xR20	–	YES ²
Rechargeable battery int./ext.	–/–	–/–	YES/–	–/–	–/YES	–/–
Operating temperature (°C)	-20...+55	-20...+55	-20...+55	-20...+55	-20...+55	-20...+55
Protection class	IP40	IP65	IP65	IP67	IP40	–
Functionality						
Send/receive SMS	YES	YES	YES	YES	YES	YES
Send SMS do defined group	–	–	–	–	–	–
Configuration by SMS	–	–	–	YES	YES	YES
WebGUI	–	–	–	–	–	–
Data packet sending	YES	YES	YES	YES	YES	YES
Unsolicited messaging	YES	YES	YES	YES	YES	YES
User programming (lines of code limit)	–	–	–	μProg (32 linie)	–	–
Modbus RTU (master/slave)	–	–	–	YES ² /–	–	–
Modbus TCP (client/server)	–	–	–	–	–	–
MQTT client	–	–	–	–	–	–
Open/Open2	+/–	–/–	–/–	YES/YES	–/–	–/–
UDP Standard	–	–	–	–	–	–
Low power operation modes	–	YES	YES	YES	YES	YES
Datalogger	–	YES	YES	YES	YES	YES
MT Data Provider compatibility	YES	YES	YES	YES	YES	YES
NTP	–	–	–	–	–	–
FOTA (Firmware Over The Air)	YES	YES	YES	YES	YES	YES
Remote configuration over network	YES	YES	YES	YES	YES	YES

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	MODULE	MTX-2050 v2 Telemetry Module 	GW-102 Industrial Router 	RM-120 RS-232/M-Bus Converter 	MT-UPS-1 Telemetry Module 
FEATURES					
Technology					
4G (LTE)		Cat 1	Cat M1/NB1	–	–
3G		YES	–	–	–
2G		YES	YES	–	–
LoRa		–	–	–	–
BLE		–	YES	–	–
GPS		–	YES	–	–
Ethernet		10/100	–	–	–
SMS		YES	YES	–	–
Hardware					
Dimensions (L x W x H) in mm		105x86x59	80,5x150,5x55	35x86x58	86x35x58
Binary inputs		0 – 4 ¹	0 – 2 ¹	–	–
Binary outputs		0 – 2 ¹	0 – 2 ¹	–	–
Counter inputs		0 – 4 ¹	0 – 2 ¹	–	–
Analog inputs		–	–	–	–
1-Wire input		–	–	–	–
Integrated sensor T/H		T	T/H	–	–
Ethernet ports		1	–	–	–
Serial ports RS232/422/485/TTL		2 (1/0/2/0) ²	2 (0/0/2/0)	1	–
M-bus interface		–	–	1	–
Voice channel		–	–	–	–
LED indicators/display		YES/–	YES/–	YES/–	YES/–
Real Time Clock (RTC)		YES	YES	–	–
Removable terminal blocks		YES	–	YES	YES
GSM antenna connector		2xSMA	1xSMA	–	–
GPS antenna		–	1xSMA	–	–
SIM cards		2xSIM/MIM ²	SIM/MIM ²	–	–
Mounting options		DIN rail	surface mounting	DIN rail	DIN rail
Housing material		ABS	ABS	ABS	ABS
Supply voltage (V DC)		10,8 – 53	9 – 30	21,6 – 42/PV	21,6 – 42
Power supply for external sensors (V DC)		–	7/80 mA	–	–
Internal battery supply		–	–	–	–
Rechargeable battery int./ext.		–/–	YES ² /–	–/–	–/YES
Operating temperature (°C)		-30...+65	-40...+125	-20...+55	-20...+55
Protection class		IP40	IP67	IP40	IP40
Functionality					
Send/receive SMS		YES	YES	–	–
Send SMS do defined group		YES	–	–	–
Configuration by SMS		–	YES	–	–
WebGUI		YES	–	–	–
Data packet sending		YES	YES	–	–
Unsolicited messaging		YES	YES	–	–
User programming (lines of code limit)		5000	–	–	–
Modbus RTU (master/slave)		YES/YES	YES/–	–	–
Modbus TCP (client/server)		YES/YES	–	–	–
MQTT client		–	–	–	–
Open/Open2		–/–	+/–	–/–	–/–
UDP Standard		–	–	–	–
Low power operation modes		–	YES	–	–
Datalogger		YES	YES	–	–
MT Data Provider compatibility		YES	YES	–	–
NTP		Client	–	–	–
FOTA (Firmware Over The Air)		YES	YES	–	–
Remote configuration over network		YES	YES	–	–

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MODULE	IOT-RT-01 IOT Sensor	IOT-RTH-01 IOT Sensor	IOT-RG-01 IOT Gateway	IOT-RG-02 IOT Gateway
				
FEATURES				
Technology				
4G (LTE)	-	-	-	-
3G	-	-	-	-
2G	-	-	-	-
LoRa	YES	YES	YES	YES
BLE	-	-	-	-
GPS	-	-	-	-
Ethernet	-	-	-	-
SMS	-	-	-	-
Hardware				
Dimensions (L x W x H) in mm	71x71x27	71x71x27	18x90x58	18x90x58
Binary inputs	-	-	-	-
Binary outputs	-	-	-	-
Counter inputs	-	-	-	-
Analog inputs	-	-	-	-
1-Wire input	-	-	-	-
Integrated sensor T/H	T	T/H	-	-
Ethernet ports	-	-	-	-
Serial ports RS232/422/485/TTL	-	-	1 (1/0/0/0)	1 (0/0/1/0)
M-bus interface	-	-	-	-
Voice channel	-	-	-	-
LED indicators/display	YES/-	YES/-	YES/-	YES/-
Real Time Clock (RTC)	YES	YES	-	-
Removable terminal blocks	-	-	YES	YES
GSM antenna connector	-	-	1xSMA	1xSMA
GPS antenna	-	-	-	-
SIM cards	-	-	-	-
Mounting options	surface mounting	surface mounting	DIN rail	DIN rail
Housing material	ABS	ABS	ABS	ABS
Supply voltage (V DC)	-	-	5 – 30	5 – 30
Power supply for external sensors (V DC)	-	-	-	-
Internal battery supply	AA/3,6V	AA/3,6V	-	-
Rechargeable battery int./ext.	-/-	-/-	-	-
Operating temperature (°C)	-20...+60	-20...+60	-20...+60	-20...+60
Protection class	IP30	IP30	IP40	IP40
Functionality				
Send/receive SMS	-	-	-	-
Send SMS do defined group	-	-	-	-
Configuration by SMS	-	-	-	-
WebGUI	-	-	-	-
Data packet sending	-	-	-	-
Unsolicited messaging	-	-	-	-
User programming (lines of code limit)	-	-	-	-
Modbus RTU (master/slave)	-	-	-/YES	-/YES
Modbus TCP (client/server)	-	-	-	-
MQTT client	-	-	-	-
Open/Open2	-/-	-/-	-/-	-/-
UDP Standard	-	-	-	-
Low power operation modes	YES	YES	-	-
Datalogger	-	-	-	-
MT Data Provider compatibility	-	-	-	-
NTP	-	-	-	-
FOTA (Firmware Over The Air)	-	-	-	-
Remote configuration over network	-	-	-	-

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