

M-ARU RFID Mid Range Sensor

M-ARU-ETH-E6

Order-No. 52010198

KATHREIN
RFID

The Kathrein M-ARU-ETH-E6 is a highly integrated RFID UHF sensor based on the Kathrein Mid Range antenna series and the Kathrein industrial reader platform. The device has a PoE-Ethernet- and a serial communication interface plus digital GPIOs (in-/outputs). The supply voltage optionally can be served over PoE or local. Active and passive RFID-Transponder can be handled for reading and writing.



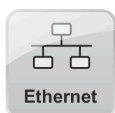
Application range:

- fork lift and floor-borne vehicle
- industrial automation
- warehouse systems

Order-No.		52010198
Frequency range	MHz	865-868
Emitted output power (max.)	dBm	+24.25 ERP
Read range	m	0.1 to 1.5
Protocol		EPC Class1 Gen2/ISO 18000-6C
RX input sensitivity	dBm	typ. -60
Internal antenna		
Far field half power beam width	°	100
Polarization		circular
Antenna gain	dBiC	2.5
Axial ratio	dB	typ. 2
Communication interfaces		Ethernet 10/100 MBit/s RS-232 115200 or 230400 baud, 8N1
Operating system reader		Kathrein firmware @ ARM 9 processor
GPIO	Inputs (TTL level 0 / 3.3V; max. 30V) Outputs (open drain, max. 30V / 0.1A)	3 3
Power consumption (max.)	W	≤6
Supply voltage PoE	V DC	+40 to +57
Supply voltage local	V DC	+10 to +30
Current consumption (at 24 V DC local supply)	mA	typ. 220
Connector (female) Ethernet/PoE		1x M12, 4-pole, D-coded
Connector (female) GPIO/RS-232/Vcc local		1x M12, 12-pole, A-coded
Operating temperature range	°C	-20 to +55
Storage temperature range	°C	-40 to +85
Housing material		Aluminium, plastic
Dimensions (L x W x H)	mm	156 x 139.3 x 63
Weight	kg	1.1
Degree of protection		IP 65 (at covering of not used connectors)
Clamping range potential equalization	mm ²	4 to 6
Conform to		EN 60529, EN301489-1, EN 302208-1, EN 302208-2, EN 60950-1:2006, EN 50364, IEEE 802.3af class 3

Technical features:

- System compliant to EPC Class 1 Gen2/ISO 18000-6C standards
- Integrated 100° Mid-Range antenna
- Dense Reader Mode (DRM)
- configurable emitted output power from 17 dBm up to 24.25 dBm (50 mW - 266 mW) ERP in 0.5 dB steps
- PoE = Power over Ethernet, Mode A: Endspan, Standard IEEE 803.af (phantom power); recommended power sourcing equipment: Netgear FS108P, Lancom ES-1108P, Phihong POE36U-1AT (Injector)



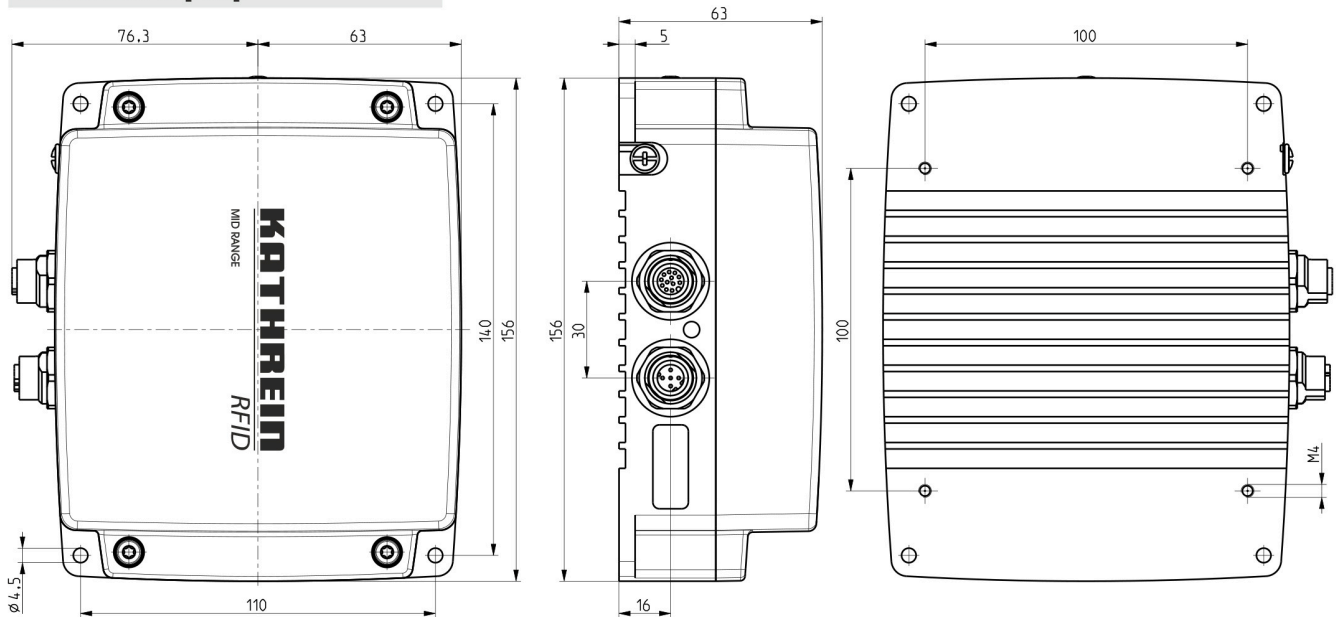
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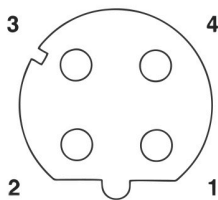


Dimensions in [mm]:



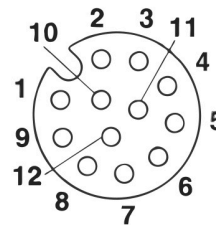
Elektrische Schnittstellen:

Ethernet/PoE:



Pin	Allocation
1	TD+ / PoE 1
2	RD+ / PoE 2
3	TD- / PoE 1
4	RD- / PoE 2

GPIO/RS-232/Vcc local:



Pin	Allocation
1	GPIO - OUT3
2	GPIO - GND
3	GND
4	RS-232 - GND
5	RS-232 - Rx ^D 1
6	RS-232 - Tx ^D 2
7	+24 V DC
8	GPIO - OUT2
9	GPIO - IN3
10	GPIO - OUT1
11	GPIO - IN2
12	GPIO - IN1

¹ connect with Tx^D of PC
² connect with Rx^D of PC

Cable allocation:

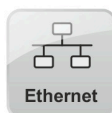
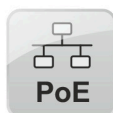
Use of M-ARU reader	RS-connecting cable 52010189, 52010241			PoE-connecting cable 52010209, 52010238	
	RS-232	Power	GPIOs	Ethernet	PoE
RS-232 with local power supply	✓	✓	✗	✗	✗
RS-232 with local power supply and GPIOs	✓	✓	✓	✗	✗
Ethernet with PoE	✗	✗	✗	✓	✓
Ethernet with PoE and GPIOs	✗	✗	✓	✓	✓
Ethernet with local power supply and GPIOs	✗	✓	✓	✓	✗

Scope of delivery:

- CD-ROM with manual and data sheet (.pdf)

Accessories (optional):

- wall/mast bracket (Order-No. 52010128), mounting kit for outdoor use
- M-ARU connecting cable GPIO/RS-232/Vcc local (Order-No. 52010189, 52010241)
- M-ARU connecting cable PoE (Order-No. 52010209, 52010238)



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