

## Features

- system compliant to EPC Class 1 Gen2/ISO 18000-6C
- integrated 100° mid-range antenna
- dense reader mode (DRM)
- configurable emitted output power from 17 dBm up to 22.75 dBm (50 mW–188 mW) ERP in 0.25 steps
- PoE = Power over Ethernet, Mode A:Endspan, Standard IEEE 803.af (phantom power);  
recommended power sourcing equipment: Netgear FS108P, Lancom ES-110P, Pihong POE36U-1AT (injector)

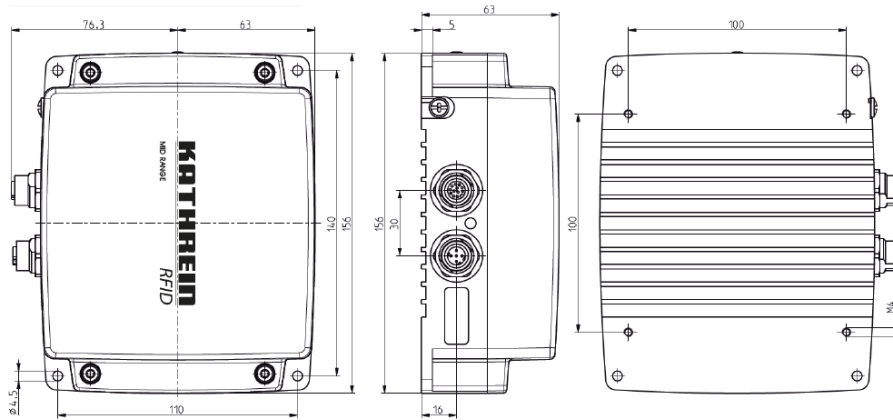
The Kathrein M-ARU-ETH-E6 is a highly integrated RFID UHF sensor based on the Kathrein mid-range antenna series and the Kathrein industrial reader platform. The device has a PoE Ethernet and a serial communication interface as well as digital GPIOs (inputs and outputs). The supply voltage can optionally be provided over PoE or locally. The reader can handle active and passive RFID transponders for reading and writing.



## General Specifications

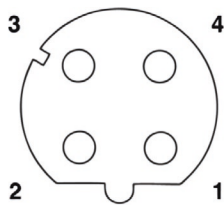
Type		M-ARU-ETH-E6
Order number		52010198
Frequency range	[MHz]	865–868
@KRAI		–
Max. emitted output power	[dBm]	22.75 e.r.p.
Read range	[m]	0.1–1.5
Protocols		EPC Class 1 Gen2/ISO 18000-6C
Nominal impedance (antenna ports)	[Ω]	50
RX input sensitivity	[dBm]	typ. –60
Internal antenna		
Far-field half-power beam width	[°]	110
Polarisation		circular
Antenna gain	[dBiC]	1.0
Axial ratio	[dB]	typ. 3
Far-field half-power beam width		4-port TX/RX interface with TNC-rev. (female) connectors
Communication interface		Ethernet 10/100 MBit/s, RS-232 115200 or 230400 baud, 8N1
Operating system reader		Kathrein firmware @ARM 9 processor
GPIO		
Inputs (TTL level 0/3.3 V; max. 30 V)		3
Outputs (open drain, max. 30 V/0.1 A)		3
Max. power consumption	[W]	≤6
Supply voltage PoE	[V <sub>AC</sub> ]	+40 to +57
Supply voltage, local	[V <sub>DC</sub> ]	+10 to +30
Current consumption (at 24 V DC local supply)	[mA]	typ. 220
Connector (female) Ethernet/PoE		1 x M12, 4-pole, D-coded
Connector (female) GPIO/RS-232/Vcc local		1 x M12, 12-pole, A-coded
Housing materials		aluminium, plastic
Clamping range potential equalisation	[mm <sup>2</sup> ]	4–6
Weight	[kg]	1.1
Degree of protection		IP65 (at covering of not used connectors)
Operating temperature range	[°C]	–20 to +55
Storage temperature range	[°C]	–40 to +85
Dimensions (L x W x H) (without brackets)	[mm]	156 x 139.3 x 63
Standards		EN 60529, EN301489-1, EN 302208-1, EN 302208-2, EN 60950-1:2006, EN 50364, IEEE 802.3af class 3

**> Dimensions [mm]**



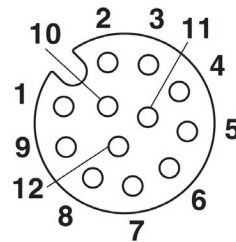
**> Electrical Interfaces**

**Ethernet/PoE**



Pin	Allocation
1	TD+ / PoE1
2	RD+ / PoE2
3	TD- / PoE1
4	RD- / PoE2

**GPIO/RS-232/Vcc local**



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

\* connect with TxD of PC  
\*\* connect with RxD of PC

**> Cable Allocation**

Type	RS-connecting cable 52010189, 52010241			PoE-connecting cable 52010209, 52010238	
	RS-232	Power	GPIOs	Ethernet	PoE
Use of M-ARU reader					
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	-	✓	✓	✓	-

**> Accessories (Optional)**

You can find all accessories at <http://www.kathrein-solutions.com/products/hardware/accessories>.