

GENERAL INFORMATION

FCCID: O6QMETA84X

1.1. Product description

VEGAMET Air 841

Controller in a field housing for connecting of a radio-based sensor



Application area

The controller VEGAMET Air 841 receives and processes the measured values of the wirelessly connected sensor and displays them on the screen. A large display for data visualisation is integrated into the housing, which is designed for harsh field conditions.

It enables easy implementation of pump controls, flow measurements on open channels and weirs as well as totalizers. The VEGAMET Air 841 can be used to monitor limit values and switch relays.

The simple connection of radio-based sensors over long distances enables applications where laying a cable would be too costly or impossible.

Benefit

- Simple connection of wireless sensors (LoRaWAN)
- Time and cost savings by eliminating cable installation
- Automatic coupling of sensor and VEGAMET Air 841 via NFC
- Easy monitoring of the measuring point via graphical display
- Complex programming of control tasks is no longer necessary
- Simple and reliable commissioning and diagnosis of the measuring points via smartphone
- No regular inspection required for Ex applications

Adjustment

Adjustment via the integrated display and adjustment unit

- Adjustment menu-driven via four buttons in the front and graphic-capable display with backlight

Wireless adjustment via Bluetooth

- via smartphone/tablet - with the VEGA Tools app
- via notebook/PC - with PACTware + DTM (Device Type Manager)



Technical data

Operating voltage	
– Nominal voltage AC	100 ... 230 V~ (-15 %, +10 %) 50/60 Hz
– Nominal voltage DC	24 ... 65 V = (-15 %, +10 %)
Power consumption	max. 18 VA; 7 W
Sensor input	
Number of sensors	1 x wireless sensor
Measured value transmission	LoRaWAN
Relay output	
Quantity	3 x operating relay, one can be configured as fail safe relay
Contact	Floating change-over contact (SPDT)
Switching voltage	max. 250 V AC/60 V DC
Switching current	max. 1 A AC (cos phi > 0.9), 1 A DC
Breaking capacity	min. 50 mW, max. 250 VA, max. 40 W DC (with U < 40 V DC)
Current output	
Quantity	1 x output
Range	0/4 ... 20 mA, 20 ... 0/4 mA
Max. load	500 Ω
LoRaWAN	
Effective range	up to 15 km (9,3 mi)
External antenna	– Omnidirectional dipole antenna fitted directly to the device (included in delivery)
	3.5 dBi (863 MHz ... 870 MHz), 3.84 dBi (902 MHz ... 928 MHz) dBi
– Antenna gain	< 4 dBi
– Antenna connection	RPSMA(F)
Bluetooth interface	
Bluetooth standard	Bluetooth 5.0
Effective range	up to 50 m (164 ft)
NFC reader	
Frequency	13.56 MHz
Transmission power	< 60 dBμA/m
Antenna	Integrated loop
Effective range	typically 4 cm (1.5 in)
Indicators	
Measured value indication	– Graphic-capable LC display, with lighting
	89 x 56 mm, digital and quasianalogue display
Adjustment elements	4 x keys for menu adjustment
Ambient conditions	
Ambient temperature	– Instrument in general
	-40 ... +60 °C (-40 ... +140 °F)
– Display (readability)	-20 ... +60 °C (-4 ... +140 °F)
Electrical protective measures	
Protection rating	IP66/IP67 acc. to IEC 60529, Type 4X acc. to UL 50

Approvals

- Radio approvals



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VEGAMET Air 842

Controller in a field housing for connecting two radio-based sensors



Application area

The controller VEGAMET Air 842 receives and processes the measured values from two wirelessly connected sensors and displays them on the screen. A large display for data visualisation is integrated into the housing, which is designed for harsh field conditions.

It enables simple implementation of pump controls, flow measurements on open channels and weirs, totalizers, difference, sum and average value calculations. With VEGAMET Air 842, limit values can be monitored and relays can be switched.

The simple connection of radio-based sensors over long distances enables applications where laying a cable would be too costly or impossible.

Benefit

- Simple connection of wireless sensors (LoRaWAN)
- Time and cost savings by eliminating cable installation
- Automatic coupling of sensor and VEGAMET Air 842 via NFC
- Easy monitoring of the measuring point via graphical display
- Complex programming of control tasks is no longer necessary
- Simple and reliable commissioning and diagnosis of the measuring points via smartphone
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Adjustment

Adjustment via the integrated display and adjustment unit

- Adjustment menu-driven via four buttons in the front and graphic-capable display with backlight

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Technical data

Operating voltage	
- Nominal voltage AC	100 ... 230 V~ (-15 %, +10 %) 50/60 Hz
- Nominal voltage DC	24 ... 65 V = (-15 %, +10 %)
Power consumption	max. 18 VA; 7 W
Sensor input	
Number of sensors	2 x wireless sensor
Measured value transmission	LoRaWAN
Relay output	
Quantity	3 x operating relay, one can be configured as fail safe relay
Contact	Floating change-over contact (SPDT)
Switching voltage	max. 250 V AC/60 V DC
Switching current	max. 1 A AC (cos phi > 0.9), 1 A DC
Breaking capacity	min. 50 mW, max. 250 VA, max. 40 W DC (with U < 40 V DC)
Current output	
Quantity	2 x output
Range	0/4 ... 20 mA, 20 ... 0/4 mA
Max. load	500 Ω
LoRaWAN	
Effective range	up to 15 km (9,3 mi)
External antenna	
- Omnidirectional dipole antenna fitted directly to the device (included in delivery)	3.5 dBi (863 MHz ... 870 MHz), 3.84 dBi (902 MHz ... 928 MHz) dBi
- Antenna gain	< 4 dBi
- Antenna connection	RPSMA(F)
Bluetooth interface	
Bluetooth standard	Bluetooth 5.0
Effective range	up to 50 m (164 ft)
NFC reader	
Frequency	13.56 MHz
Transmission power	< 60 dBμA/m
Antenna	Integrated loop
Effective range	typically 4 cm (1.5 in)
Indicators	
Measured value indication	
- Graphic-capable LC display, with lighting	89 x 56 mm, digital and quasianalogue display
Adjustment elements	4 x keys for menu adjustment
Ambient conditions	
Ambient temperature	
- Instrument in general	-40 ... +60 °C (-40 ... +140 °F)
- Display (readability)	-20 ... +60 °C (-4 ... +140 °F)
Electrical protective measures	
Protection rating	IP66/IP67 acc. to IEC 60529, Type 4X acc. to UL 50

Approvals

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1.2. Tested System Details

Type:	RFID	
Chipset / RF Module	ST25R3916B-AQET	
Frequency band:	[13.553 to 13.567] MHz	
Number of Channel:	1	
Antenna Type:	Internal	
Transmit chains:	1	
Receiver chains	1	
Operating temperature range:	T_{min} :	-40 °C
	T_{nom} :	20°C
	T_{max} :	+60 °C
Operating voltage:	V_{min} (85% V_{nom}):	20VDC or 85VAC
	V_{nom} :	24VDC or 230VAC
	V_{max} (115% V_{nom}):	65VDC or 253VAC

Antenna Characteristic		
Antenna reference Gain (dBi)	Frequency Band (MHz)	Impedance(Ω)
Flex PCB FXR.4030.52.0075X.B.dg Gain : (loop 40*30*0.355 mm)	13.56	50

DTS:	LoraWAN
Chipset / RF Module	LR1302-SPI-US915
Frequency band:	[902-928] MHz
Spectrum Modulation:	Chirp Spread Spectrum
Number of Channel:	8
Spacing channel:	600kHz (500kHz BW)
Channel bandwidth:	500kHz
Antenna Type:	External with connector
Antenna connector:	Permanent external
Antenna requirements §15.203	The transmitter uses an external antenna with a connector which is classified as a unique connector
Transmit chains:	1
Receiver chains	1

CHANNEL PLAN – 500kHz channels uplink	
Channel	Frequency (MHz)
0 = Cmin	923.3
1	923.9
2 = Cmid	924.5
3	925.1
4	925.7
5	926.3
6	926.9
7 =Cmax	927.5



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1.3. Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 or/and ANSI C63.10, FCC Part 15 SubPart 15B and 15C.

Radiated testing was performed at an antenna to EUT distance of 10 meters. During testing, all equipment's and cables were moved relative to each other in order to identify the worst case set-up.

1.4. Test facility

Tests have been performed: **March 10, 2026 to June 05, 2026**

This test facility has been fully described in a report and accepted by FCC as compliant with the radiated and AC line conducted test site criteria in ANSI C63.4 or/and ANSI C63.10.

This test facility has also been accredited by COFRAC (French accreditation authority for European Union test lab accreditation organization) according to NF EN ISO/IEC 17025, as compliant with test site criteria and competence in 47 CFR Part 15/ANSI C63.4 and EN55032/CISPR32 norms for 89/336/EEC European EMC Directive application. All pertinent data for this test facility remains unchanged.