Overview

- Wireless communication on ISM band at 865-867MHz (India), 868MHz (EU), 902-928MHz (Americas and Australia).
- Up to 1 Km range on Line of Sight.
- Encrypted communications by AES 128bits.
- Auto routable.
- Modbus RTU wireless transmission
- Modbus RTU RS485 transmission
- Power range: 9Vdc@80mA <=> 30Vdc@24mA
- Count of pulses and real input status stored in an internal Modbus register.
- One Open Drain output.
- DIN-Rail mounting
- Firmware updatable via microUSB.
- Capable to be adapted to other industrial communication protocols.

Characteristics

General

Power supply:	9Vdc@80mA to 30Vdc@24mA
Consumption:	<1 W

Radio

Frequency:	865-867MHz (India), 868MHz (EU), 902-928MHz (Americas and Australia)
Sensitivity**:**	-104dBm typ
RF Power:	Up to +26 dBm
Range:	Up to 1km
Antenna:	SMA Female connector – not included

Interfaces

microUSB:	Configuration port (19200 bps UART)
RS485:	Up to 1.2 km distance, speed up to 19.2 kBaud

Digital inputs/outputs

Pulse input:	Operating mode selectable by jumper: wet contact (up to 30Vdc), dry contact, open-collector or S0 type. Detecting frequency: up to 30Hz
Discrete output:	Open Drain 2A

Protocols

Modbus RTU, Wireless AES128 Encrypted Mesh

Working conditions

Working temperature:	-25 .. +70ºC
Storage temperature:	-40 .. +70ºC
Humidity range:	5 – 95%, w/o condensation

Regulatory approvals

CE

UNE-EN 60950-1:2007 +Corr:2007+A11:2009+A1:2011 +A12:2011/AC2012(Partial)
UNE-EN 61000-6-1:2007
UNE-EN 61000-6-3:2007
UNE-EN 55 022:2011 + Err (UNE-EN55022:2011/AC)
UNE-EN 55 024:2011
EN 301489-1 v1.8.1 (2008-02)(Partial)(1 – 6 GHz Band)

Physical characteristics

Dimensions:	18x89x59 mm
Material:	PC/ABS
Protection type:	IP20

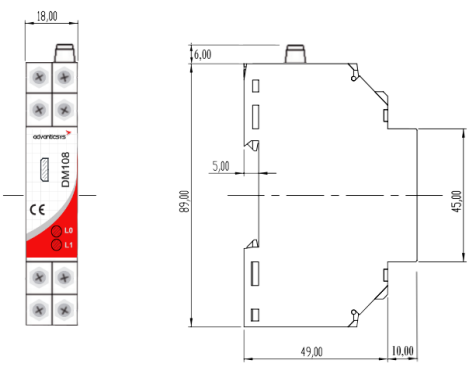
Mounting

DIN rail

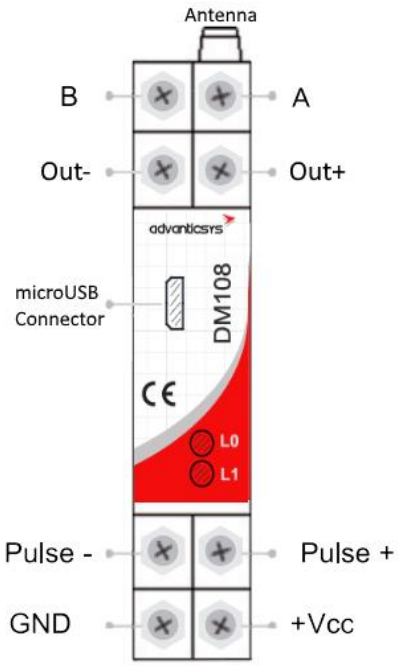
Other features

Made in EU

Dimensions (mm)



Connections



Description of connections	
Antenna	SMA Connector for 868MHz antennas
A	Terminal A RS485.
B	Terminal B RS485.
Out+	Terminal of the Drain of the driver.
Out-	Terminal connected internally with the DM108 ground.
Pulse+	Positive Pulse Input Terminal
Pulse -	Negative Pulse Input Terminal
+Vcc	Power Source Positive Terminal
GND	Power Source Ground Terminal
microUSB connector	May used as UART to recover a configuration. Also for firmware update
LEDS	
L0	Blink each 10000 work cycles.
L1	Blink with any transmission or reception in any of each communication channel.

Pulse Counter

The pulse counter of DM-108 saves number of pulses received (in falling edge) in two Modbus registers (forming a **32bit variable**) allocated in **non-volatile memory**. This registers can be modified with the desired value. In case of overflowing, the counter restarts with value '0'. Please, read the user manual to view how to manage the Modbus registers of the Pulses counting.
DM108 is capable to measure up to 30 pulses per second.

Open Drain Output

The output, as open drain, could be connected in serial with power supplies to manage the ON/OFF of Low power devices. Also it can be used with relays or contactors. The output has the capacity to drive up to 2A.
With the Modbus registers of DM108, the output could have three behaviors:

1. Constant Output. The output has continuously the value programmed via Modbus register.
2. Pulse Output: A unique pulse is generated, with a concrete width, programmed all via Modbus registers.
3. PWM Output: A constant PWM output could be generated, with ON and OFF cycles programmable via Modbus registers.

HW & FW compatibility

DM-108 VS DM-108

Compatibility		
FW DM-108 Coordinator	**FW DM-108 slave**	**WM config tool**
3.0	v3.0	v1.0.6.0
3.1	v3.0 ; v3.1	v1.0.7.0
3.2	v3.0 ; v3.1 ; v3.2	v1.0.7.2
3.5	v3.0 ; v3.1 ; v3.2 ; v3.5	v1.0.7.6
6.0	v6.0	v1.0.7.6
6.2	v6.2	v1.0.7.6
7.0	v6.2 ; v7.0	v1.0.7.9
7.2	v7.2	v1.0.7.9
7.3	v7.2; v7.3	v1.0.7.9

DM-108 VS e-108

Compatibility		
FW DM-108 Coordinator	**FW e-108 slave**	**WM config tool**
3.0	NC	v1.0.6.0
3.1	NC	v1.0.7.0
3.2	NC	v1.0.7.2
3.5	NC	v1.0.7.6
6.0	v1.0	v1.0.7.9
6.2	v1.0	v1.0.7.9
7.0	v1.1	v1.0.7.9
7.2	v1.1	v1.0.7.9
7.3	v1.1	v1.0.7.9

*NC: Not compatible

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