

Pulse Input S0 to NB-IoT with ATEX

The converter with an optional ATEX certification is designed for efficient readings of gas meters with pulse outputs. It enables integration of gas meters—typically for a medium consumption—into the NB-IoT wireless network. The device is synchronized with the network time and reads precisely at hourly intervals with a detection of a minimum and maximum flow rates.

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- The device is specially developed for a gas industry and in collaboration with gas companies. It allows retrofitting of any gas meter on the market with a pulse or Wiegand output.
- Thanks to the possibility of a local configuration via an optical head through the IEC 62056-21 protocol or a remote configuration over the network, it significantly reduces the total cost of ownership (TCO) in projects requiring frequent remote readings of gas meters.
- ATEX certification allows connection of the gas meters even in EX zone 2. A necessity for the gas industry.
- We prioritize TCO - from using a coulomb counter to obtain an accurate battery life to the pre-configured units delivery tailored to your setup.

\ Installation, Operation and longevity without Worries

For the gas industry, we have developed a product with the ATEX certification, NB-IoT configuration with a lifespan of over 10 years, support for the LWM2M protocol and integration of the IEC configuration protocol. For all the NB-IoT devices, we can perform firmware updates remotely via the NB-IoT network, so customers

do not need to make any changes to the installation. We have experience with projects for small businesses and large heating plants aimed at optimizing the distribution systems and readings in compliance with the EED and the ESG regulations.

\ \ Technical Specifications

General Specification		SO Interface	
Dimension	145 x 65 x 40 mm	A number of inputs	1
Weight	235g with battery	Impulse counter	32 bits = 4 294 967 295 pulses
IP rating	IP67	Minimum pulse duration (ms)	50
Mounting	6 fixation points for mounting to the wall, tube or collar	Maximum input voltage (V)	24
Mounting holes	4x M4 pan screw and 2x oval hole for zip-tie fixation	Maximum pulse frequency (Hz)	20
LCD display	Yes. 7 segments with decimal point, 8 digits	Logical 1 range (V)	More than 2 (up to 24)
HS code	85269200	Logical 0 range (V)	Less than 1
Operating Conditions		Closed mechanical contact	Resistance < 100kΩ
Operational temperature	-30 to +60 °C	Open mechanical contact	Resistance > 200MΩ
Humidity	0 to 85% RH (non-condensing)	Polarity inversion protection	Electronic and mechanical
Regulations and Certifications		Connector	WAGO
Standard	CE, RoHS, ATEX zone 2 pending under different ordering code	Reading period	24x / day with a sending period 1x / day
Device Configuration		Functionality	SO readings on LCD display, network time synchronization, pulse counter setting, historic values, detection of min and max flow, hourly values for past 40 days, network failure recovery mechanism
Local device configuration	IEC 62056-21 via optical head and configuration SW tool	Battery Specifications	
Remote device configuration	Downlink via network	Battery size	C-Cell
FUOTA support	Yes, over the NB-IoT network	Capacity	8 500 mAh
Configuration options	Assign unique device ID, archive readout, counter setup, network parameters, pulse ratio	Self-discharge	<1%
NB-IoT		Rechargeable	No
Bands	B1/B2/B3/B4/B5/B8/B12/B13/B14/B17/B20/B26/B28	Replacable	Yes
NB module	SIM7022	Battery connector	JST-XH 2pin
Supported protocols	UDP, LWM2M	Battery life-time	10 years with reading 1x/hour with a sending period 1x/day
Antenna	Internal	Packaging	
TX Power	23 dBm	1x wM-Bus to NB-IoT converter	1x installation manual
SIM form factor	3FF	1x Battery	
Supported NB-IoT features	PSM, eDRX		
Maximum payload length	512 B uplink, 1024B downlink*		
* might be dependent on the network. Tested with Vodafone network			
Ordering Codes			
ACR-EX-100NILCD-1I-C	SO input to NB-IoT battery powered		