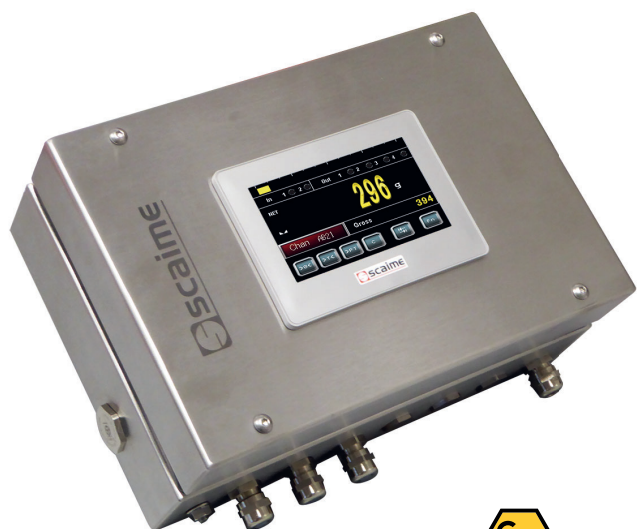
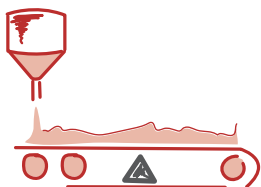


ENOD4-B BOX

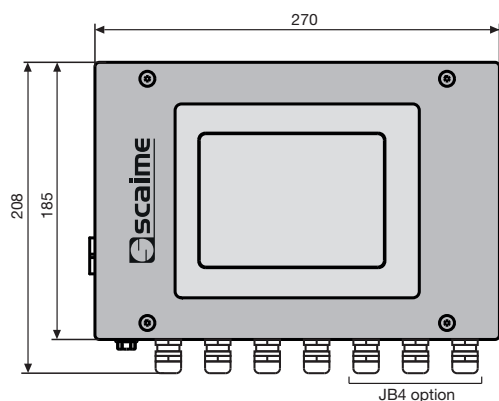
Continuous totalizing, Belt feeder



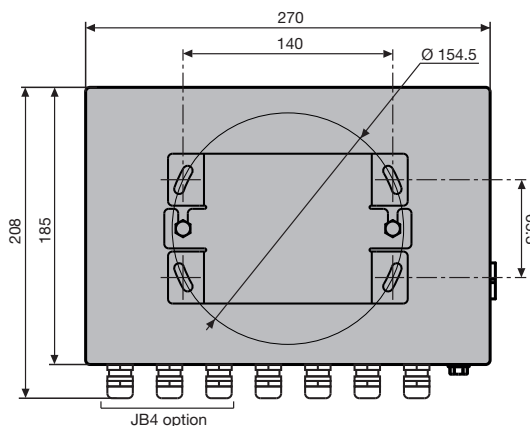
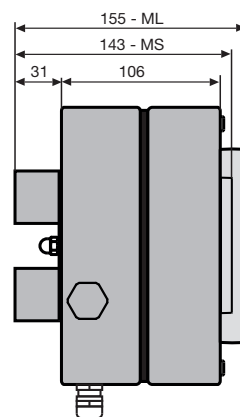
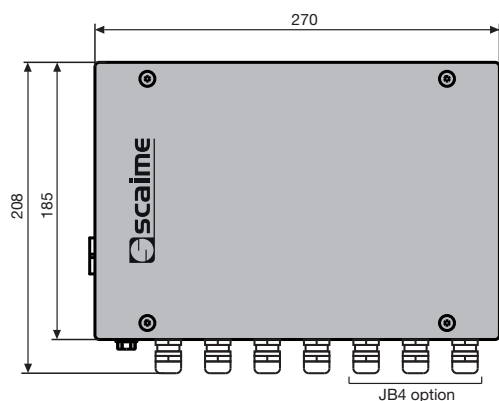
- Vertical housing for installation on DIN rail
- Up to 8 load cells conditioning
- Continuous flow rate and weight total calculation
- 1 input for belt speed sensor
- 2 digital inputs (4 with IO+ version) and 4 outputs
- Analog output 0-10 V or 4-20 mA (IO+ version)
- USB link for PC and RS485 link for HMI eNodTouch
- Optional Bluetooth communication



Version with HMI eNodTouch MS/ML



Version without HMI



ENOD4-B BOX

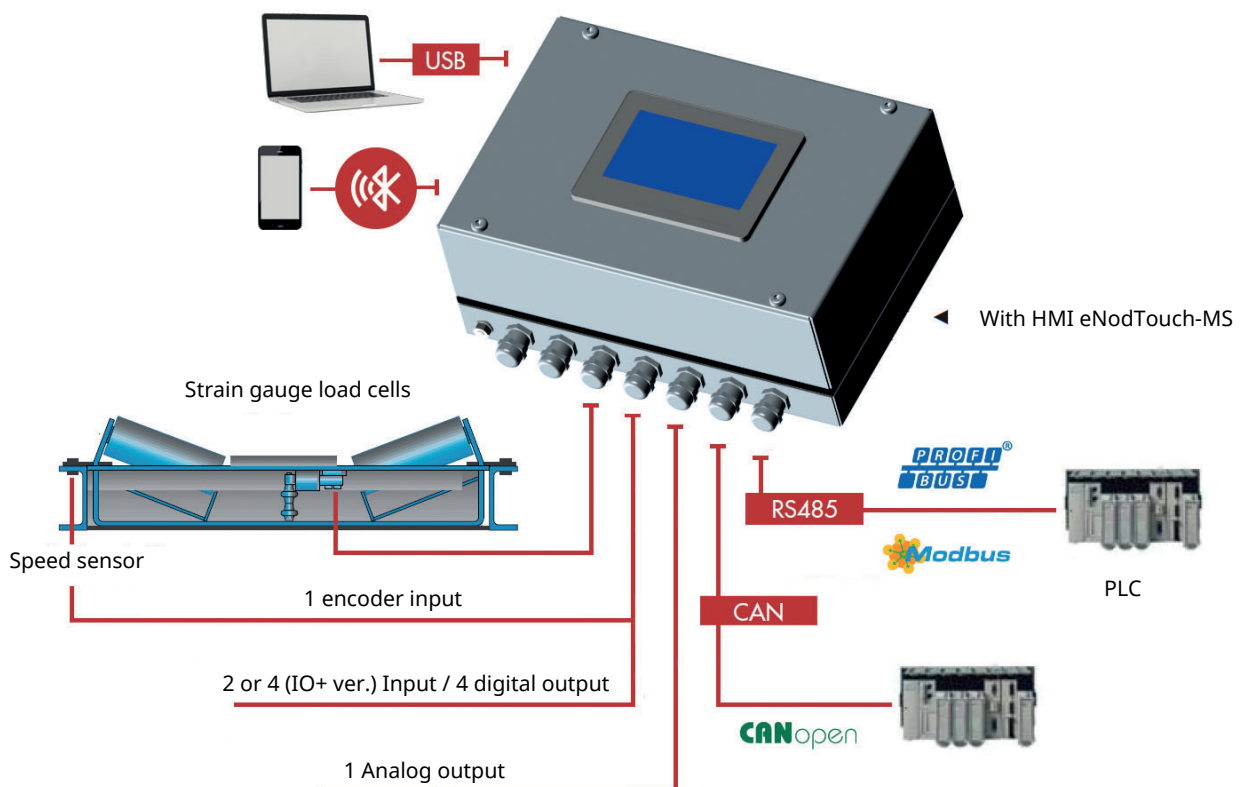
Continuous totalizing, Belt feeder

Presentation

- **High speed, Accurate and reliable measurement**
 - 400 meas./s., $\pm 500\,000$ points
 - Detection of cable break
 - Diagnosis of the measuring chair triggerable by PLC
- **PLC connectivity - version CAN / RS485**
 - 1 PLC Modbus-RTU or CANopen®
- **PLC connectivity - version PROFIBUS®**
 - 1 PROFIBUS-DP V1 output
- **PLC connectivity - version EtherNet**
 - PLC connection on dual-port EtherNet with Modbus-TCP, EtherNet/IP, PROFINET® or EtherCAT® protocols
 - Integrated web server
- **In-built Inputs/Outputs for process control**
 - 1 pulse input and 1 power supply output for belt speed sensor (IO+ version)
 - Up to 4 digital inputs and 4 outputs fully configurable
 - Analog output (IO+ version) configurable
- **USB port for PC connection with eNodView**
- **Options eNod4 stainless steel housing**
 - Integrated HMI eNodTouch-MS or ML
 - Board for connection and equalization of 4 load cells
 - Internal power adaptor 1 10-240 VAC
- **Wireless connectivity**
 - Optional Bluetooth 4.2 communication board

Interfaces diagram

Versions CAN/RS485/PROFIBUS®

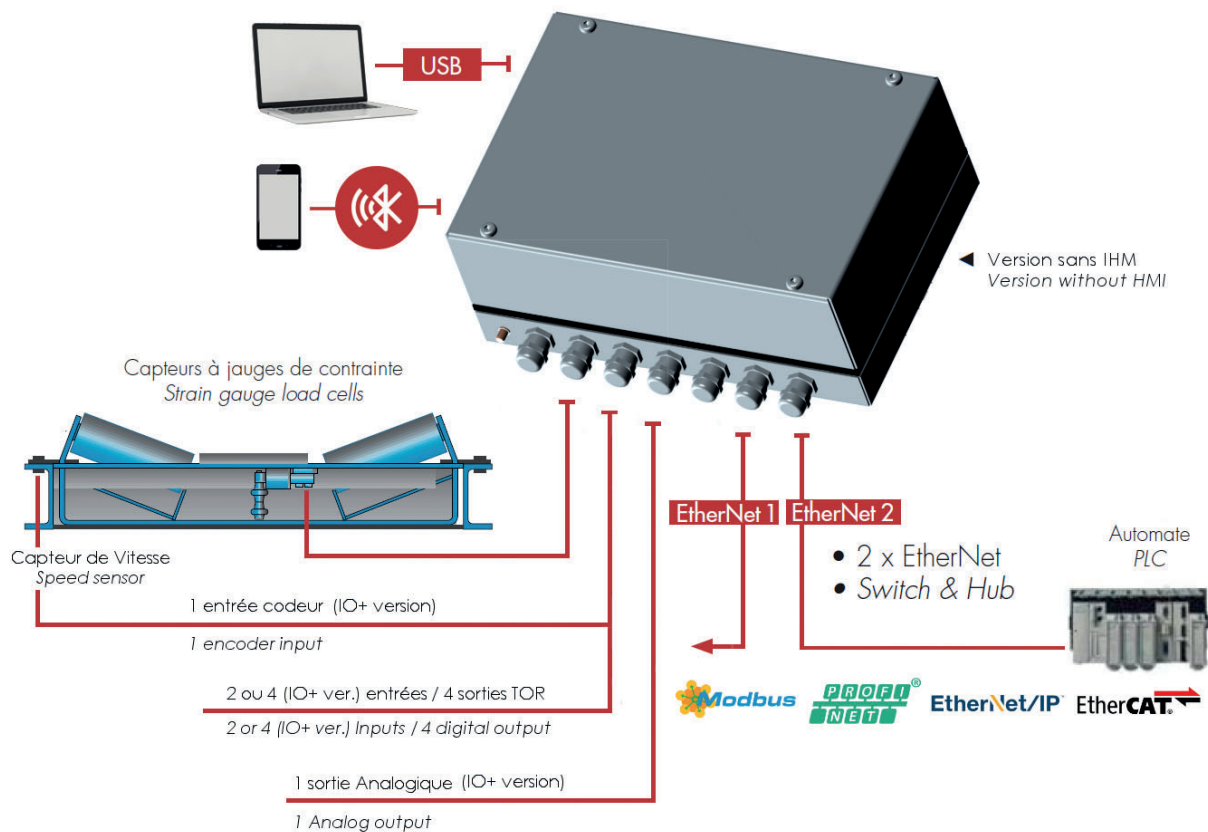


ENOD4-B BOX

Continuous totalizing, Belt feeder

Interfaces diagram

EtherNet versions



General functionalities

- **Calibration**
 - Physical or theoretical calibration
 - Automatic belt rate calibration
 - Weight and Flow rate unit adjustable
- **Digital Adjustable filters**
 - Low-pass filter, Notch filter and sliding-average

Application cases

▼ Belt scale



▼ Belt feeder

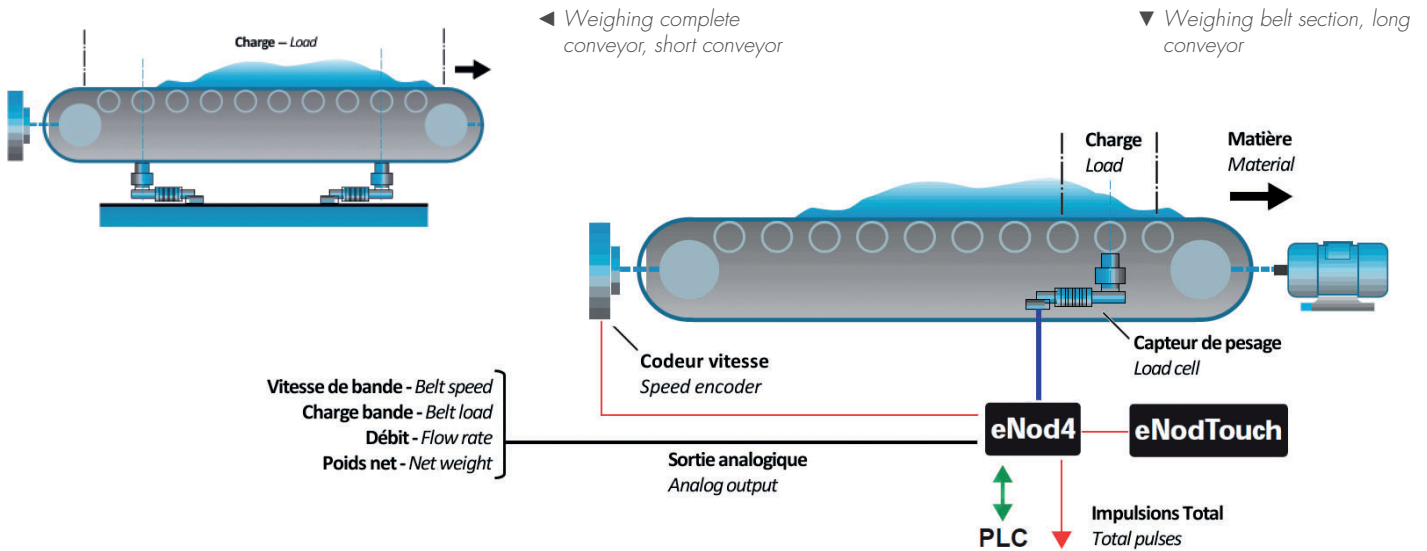


ENOD4-B BOX

Continuous totalizing, Belt feeder

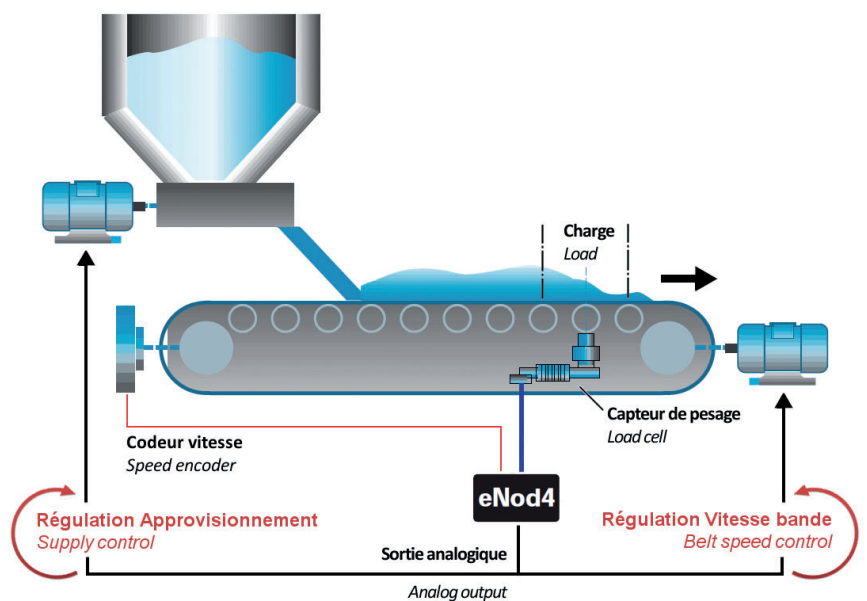
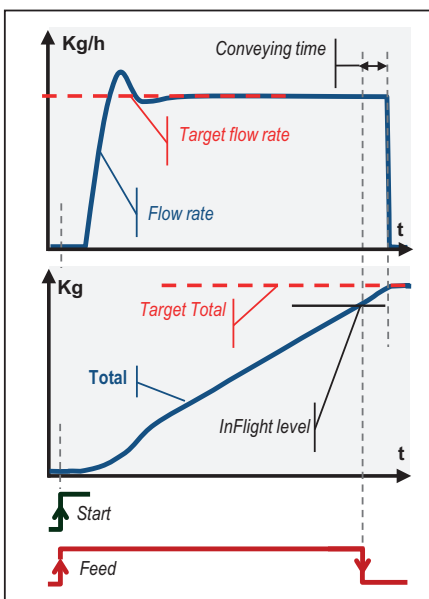
Belt scale functions

- Determination of belt speed
- Weight integration by unit of length
- Calculation of instantaneous flow, average flow
- Calculation of continuous total weight
- Alarms on Min/Max flow, Belt load
- Accumulated pulse output function
- Management of loading cycle with targeted total: Start, Stop, Material feed



Weigh belt feeder additional functions

- Management of target flow
- Flow regulation by PID controller with action on belt speed or material feed
- Function of automatic adjustment of PID parameters by self-learning



ENOD4-B BOX

Continuous totalizing, Belt feeder

Optional eNodTouch MS/ML

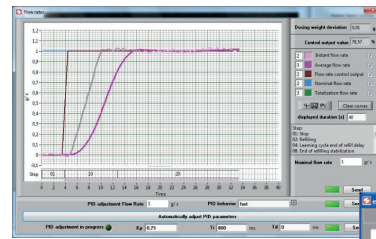
Human-machine interface with LCD color
Touchscreen 4.3"(MS) or 5.7"(ML)

- Displaying measurement, status and results
- Function keyboard: Zero, Tare and functions related to the application.
- Full configuration of parameters
- Physical or theoretical calibration



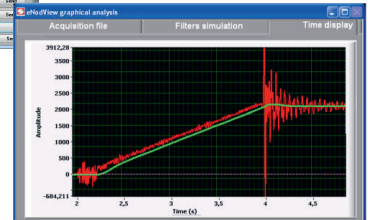
eNodView PC Freeware

- Setting, calibration and eNod4 control
- Measurements, results and I/O display
- Digital filters optimization by FFT analysis and filter effect simulation
- Adjustment of PID controller parameters and graphic display of automatic adjustment



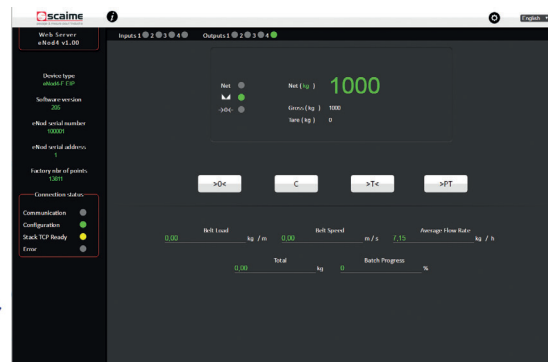
▲ Automatic adjustment of PID parameters with eNodView software

▼ Digital filtering by eNod4 and display with eNodView software



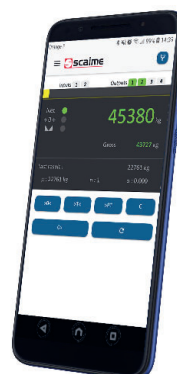
eNod4 EtherNet Web server

- Read / write configuration parameters
- Measurements, results and I/O display
- eNod4 remote control
- Weighing chain calibration



eNodApp Android app for smartphones

- Android App (>4.1), Bluetooth connection with eNod4 (optional board)
- Read / write configuration parameters
- Measurements, results and I/O display
- Weighing chain calibration



ENOD4-B BOX

Continuous totalizing, Belt feeder

Specifications

GENERAL				
Power supply	10 ... 28 (option 1 : 110 ... 240 VAC)			VDC
Max. consumption	2.2 CAN / 3.4 PROFIBUS® / 4.4 EtherNet +3 IO+ / +7.7 eNodTouch-MS / +6.8 ML			W
Bridge excitation voltage	5			VDC
Input sensor range min./max.	±7.8			mV/V
Min. input sensor resistance	43			Ω
Min. signal by division	0.02			µV
Load cell connection	4/6 wires			
Housing	Stainless steel / IP65			
Cable gland qty	4 (option 2 : 7)			
Nominal temperature range	-10 ... +40			°C
METROLOGICAL				
Accuracy class	±0.005			% F.S.
Thermal Zero/Span shift	±0.00015 typ./ ±0.0002 typ			%/°C
Internal/Scaled resolution	24 bits/ ±500 000 pts			
Conversion rate	400			Conv./s.
Integral methode	Quadratic polynomial			
Integral period	250			ms
DIGITAL INPUTS/OUTPUTS		STD	IO+	
Pulse input - Encoder	-	1	Max. 4 kHz	
- TTL: Range low/high			0 ... 0.5 / 2.4 ... 5	VDC
- HTL: Range low/high			0 ... 2.5 / 5 ... 30	VDC
Supply output (speed sensor)	-	1	12.5 ±2 VDC / 30 mA	
Digital inputs	2	2	Class 3 : 11 ... 30 VDC / 12.6 mA	
Digital outputs (static relays)	4	-	24 VDC/ 400 mA max.	
Analog output				
- Resolution	-	1		16 bits
- Type			0-5 V/0-10 VDC, 4-20 mA/0-20 mA/0-24 mA	
Galvanic isolation	-	●	1 000	V
COMMUNICATION				
1 RS485 (Auxiliary)				Half Duplex
- Baud Rate			9 600 ... 115 200 bauds	
1 USB				2.0
Max. update frequency of data (measurement) on the bus	CANopen®	RS485/USB	EtherNet	
	1 000/s.	200/s.	100/s.	
CAN/RS485 VERSION				
1 RS485 (API)				Half Duplex
- Baud Rate			9 600 ... 115 200 bauds	
- Protocols			Modbus RTU	
CANbus output/CANopen®			CAN 2.0	A
PROFIBUS® VERSION				
PROFIBUS-DP V1 output				9.6 ... 12 000 Mbps
ETHERNET VERSION				
EtherNet Dual-Port				100 base-TX
- Protocols			EtherNet/IP, Modbus-TCP, PROFINET®, EtherCAT®	
EtherNet/IP			CLASS 1 cyclic, CLASS 3 Acyclic DLR (Device level Ring)	
PROFINET®			PROFINET® IO Slave MRP (Media redundant Protocol)	
EtherCAT®			Explicit Device / Data word indentification	

ENOD4-B BOX

Continuous totalizing, Belt feeder

Ordering references

Application software	
-T	Transmitter
-C	Checkweigher
-D	Batch dosing, Filling
-B	Belt feeder, Continuous totalizer
-F	Loss-in-weight feeder
Housing	
-DI	DIN version, DIN rail vertical housing
-BJ	BOX version without HMI
-BS	BOX version with eNodTouch-MS
-BL	BOX version with eNodTouch-ML
-XJ	BOX ATEX/IECEx version without HMI ⁽³⁾
-XS	BOX ATEX/IECEx version with eNodTouch-MS ⁽³⁾
-XL	BOX ATEX/IECEx version with eNodTouch-ML ⁽³⁾
Power supply and connection	
00	without junction board
04	4 load cells junction board ⁽¹⁾
20	without junction board ^{(1), (2)}
Optional I/O board	
-0	No
-A	IO+ version: 0-10V/4-20mA output, 2 logical In, 1 pulse In
Wireless communication	
00	No
B0	Bluetooth
PLC connectivity	
-SC	CANOpen / RS485 Modbus-RTU
-SP	Profibus-DP
-EM	Ethernet, Modbus-TCP
-EI	Ethernet, EtherNet/IP
-EP	Ethernet, Profinet
-EC	Ethernet, EtherCAT

(1) Not compatible with DIN version
 (2) Not compatible with BOX ATEX/IECEx version
 (3) ATEX/IECEx – Without test & marking

Options

Touchscreen eNodTouch-MS
 - Screen

4,3" LCD TFT / resistive film
 95 x 54 mm / 480 x 272 pixels / 65535 colors

Touchscreen eNodTouch-ML
 - Screen

5,7" LCD TFT / resistive film
 115x 86.5 mm / 320 x 240 pixels / 65535 colors

(1) Internal power adaptor

110-240 VAC

(2) Board for load cells connection

4 load cells

Wireless com. option

Bluetooth® Low Energy 4.2

- Activation

Switch

- Max. RF output power

-16.9 dBm

- Frequency range

2.4 ... 2.4835 GHz

ATEX 2014/34/EU, IECEx

Ex II 3 G/D, Ex ec nA nC IIC T4 Gc, Ex tc IIIC T135°C Dc, 0°C ≤ Ta ≤ +40°C (zone 2/22)

Accessories



Adjustable bracket



eNodView : Software



eNodApp Android App



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