# i 40 Ex 2-21  IECEx
## Weight indicator for industrial processes in explosive atmosphere

**PRECIA MOLEN™**
*WORLDWIDE WEIGHING*

IK 07

▼ The i 40 Ex 2-21 IECEx industrial indicator is particularly adapted for *process weighing* with easy integration in any industrial process which includes weight measurement.

▼ It can be installed directly in potentially explosive atmosphere for risks related to the presence of dusts (zone 21 and 22) and/or gas (zone 2).

▼ The numerous wiring possibilities allow a direct connection of the i 40 Ex 2-21 IECEx indicator to most PLCs and industrial PCs on the market.

## Display

- FSC Technology (Field Sequential Color)
- 7 color configurable backlighting
- Weight display over 7 characters (25 mm high)
- 10 character text zone (8 mm high)
- Weight units: g, kg, t and lb
- Metrological and field bus activity indicators
- Wide viewing angle and sharp contrast
- Bilingual messages French/English

## Keyboard

- Touch pad
- 3 metrological keys: zero, tare and gross weight reminder
- 3 menu access keys
- 4 arrow keys

## Metrological approval

Compliant with the European Directive on Non-Automatic Weighing Instruments (NAWI).
- Class III NAWI
- Simple range 1 x 3 000 or 1 x 6 000
- Double range 2 x 3 000 or 2 x 6 000

## C€ Conformity

- Compliant with European Directive on Electro-magnetic compatibility.

## Certification ⟨Ex⟩

- Compliant with the ATEX European Directive relative to protection devices and systems designed for use in explosible atmospheres and with **IECEx** standards.
- Marking according to EN 60079-0:2012
  - II3G Ex nA IIC T4/T6* Gc
  - II2D Ex tb IIIC T85ºC Db

  *\* T4 with an optional board*

## Environmental features

- Power Supply ............................................. 9 à 30 V DC**
- Maximum consumption :
  - Typical ................................................. 1,4 W
  - With 4-20 mA / 0-10 V option ................... 1,8 W
  - With field bus option ............................. 2,7 W
- Connection on spring loaded terminals
- Use temperature ............................... - 20 ºC / + 55 ºC***
  (10 to 85 % max. of relative humidity without condensation)
- Storage temperature ......................... - 20 ºC / + 55 ºC
- Waterproofness ............................................. IP66
- Shock resistance ............................................. IK07
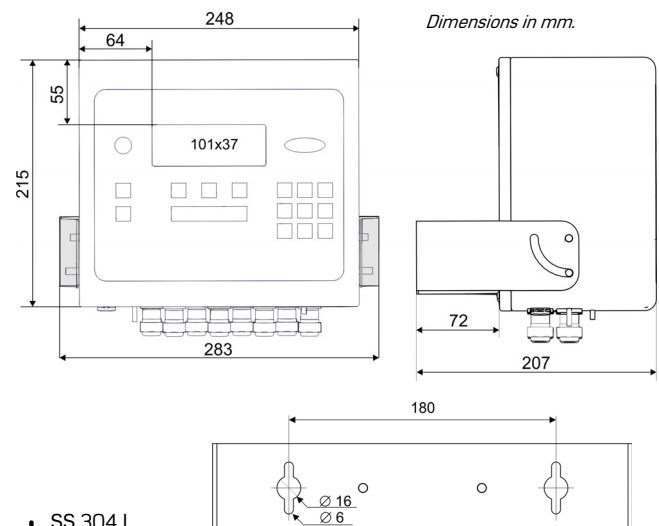
*\*\* if 4-20 mA option: minimum 22 V.*
*\*\*\* -10 ºC / + 40 ºC in legal for trade use.*

## Metrological features

- Up to 200 000 divisions in non legal for trade use.
- Minimum tension scale per division ................ 0,5 µV
- Weigh cell power supply ................................ 5 V
- Weigh cell minimum impedance ..................... 43 Ω
- Weigh cell maximum impedance ..................... 1245 Ω
- Connection ............................................. 4/6 wires
- Up to 100 measurements/second
- Cascadable digital filters on 2 configurable levels

## Physical Features

*Dimensions in mm.*

248
64
55
215
101x37
283
72
207
180
Ø 16
Ø 6

- SS 304 L
- Weight : 4 kg
- Supplied with universal adjustable mount for tabletop, wall or column installation.

# Functions

## Communication

- 1 RS232/RS485 configurable port.
- Protocols : slave Modbus RTU, slave PM A+ and remote display master PM A+.

## Weight thresholds

**4** galvanic isolated **digital outputs**:

- Tension/current range.................................... 30 V AC/DC - 100 mA
- Definition of thresholds in gross weight or net weight.
- Output activation if the current weight is >= or <= threshold value.
- Thresholds relative to a positive or negative weight value.

## Remote control

**2** galvanic isolated **digital inputs**:

- Tension range ................................................................. 8-30 V DC
- Max. current........................................................................ 15 mA

Used to remotely perform zeroing and taring operations.

## Settings

Metrological and functional settings can be performed via:

- the indicator front panel;
- a PC and a simple Internet browser.

Parameter back-up/restoration on µSD board (optional) or on CD-Rom.

## Help with preventive maintenance

- Counter of observed weight overloads.
- Alert display on 3 levels according to the number of performed weighs.

# Supplied accessories

- Clear protective cover for the front panel, which can be left on during use.

# Options

## Communication via field bus

- PROFIBUS-DP*
- PROFINET*
- DeviceNet*
- Ethernet Modbus-TCP*
- EtherNet/IP*
- CANopen
- POWERLINK*

The CANopen bus enables connecting a d 20 remote display and integrating an i 40 Ex 2-21 IECEx indicator in an I 410 network.

## Analog output*

- 4-20 mA or 0-10 V analog output
- 1500 V RMS galvanic isolation
- Possible reading of negative weight values on the 0-4 mA range
- Image of instant gross or net weight

*\* Exclusive options: either one of the connections to the field buses marked by \*, or an analog output.*

## Serial communication

- 1 peripheral-type USB port
- 1 RS 232 port
- Protocols: slave Modbus RTU, slave PM A+ and remote display master PM A+.

## TCP/IP communication

- 1 Ethernet port 10/100 Mb RJ 45
- Protocol: slave PM A+ and remote display master PM A+.

## µSD board

- For parameter back-up/restoring.
- Alibi (DSD) memory for 300 000 records in legal for trade use.

## Junction box

Direct connection to 2 to 4 analog load cells (4 or 6 wires)

## Internal power supply

- Voltage ................................................. 100-240V AC 50/60Hz
- Power draw .................................................. 0,35 A

## Power chaining

8 terminals for 24 V power supply chaining (max. current 10 A). Maximum cross-section: 2,5 mm²

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