

# i 40 EDU Ex 2-21 IECEx (Elementary Dosing Unit) Weigh dosing indicator for explosive atmosphere

**PRECIA  
MOLEN™**  
WORLDWIDE WEIGHING



The i 40 EDU Ex 2-21 IECEx is an industrial weight indicator which is ideally suited to control single weigh dosing processes. It may operate independently or be managed by a supervisor.

It can be installed directly in potentially explosive atmospheres where there are risks associated with the presence of dust (zone 21 and 22) and/or gas (zone 2).

In this last case, numerous connection possibilities authorise connection of the i 40 EDU Ex 2-21 IECEx to most controllers and industrial PCs on the market.

## Display

- FSC (Field Sequential Colour) segments technology
- Configurable 7 colour backlighting
- Weight display on 7 x characters, 25 mm high
- 10 x character text area 8 mm high
- Weight unit: g, kg, t and lb.
- Field bus metrological and activity indicator
- High viewing angle and contrast
- French / English bilingual messages

## Keypad

- Touch control keys.
- 12-key digital keypad
- 2 process keys (start cycle/stop cycle)
- 3 menu access keys

## CE Compliance

- Compliant with the European Directive on Electromagnetic Compatibility.

## Ex Certification

- Compliant with the European ATEX Directive relating to equipment and protective systems intended for use in potentially explosive atmospheres and to the IECEx standards.
- Marking according to EN 60079-0:2012
  - II3G Ex nA IIC T4/T6\* Gc
  - II2D Ex tb IIIC T85°C Db

\* T4 with an option card

Nota : The list of the different European Directives applicable and the list of countries which are the subject of an approval are indicated in the International Product Guide.

## Environmental Characteristics

• Power supply.....	9 to 30 V DC*
• Maximum consumption:	
Typical.....	1.4 W
With option 4-20 mA / 0-10 V.....	1.8 W
With field bus option.....	2.7 W
• Connections on spring loaded terminals	
• Operational temperature.....	- 20 °C / + 55 °C**
(10 to 85 % max. relative humidity without condensation)	
• Storage temperature.....	- 20 °C / + 55 °C
• Protection rating.....	IP66
• Impact resistance.....	IK07

\* if option 4-20 mA option: minimum 22 V.

\*\* - 10 °C / + 40 °C in trade use.

## Metrological Characteristics

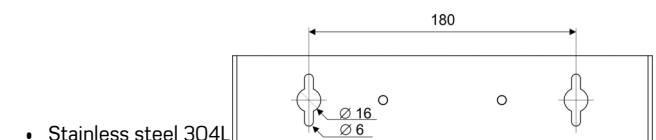
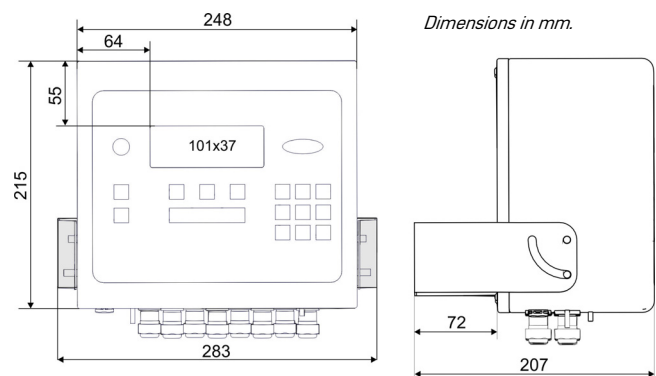
- Up to 200 000 divisions for non-trade use.
- Sensitivity..... 2 mV/V
- Minimum voltage division per division..... 0.5 µV
- Weighing load cell power..... 5 V
- Minimum load cell impedance..... 43 Ω
- Maximum load cell impedance..... 1245 Ω
- Connection..... 4/6 wire
- Up to 100 measurements / second
- Cascadable digital filtering on 2 configurable levels

## Approval for Trade Use

Compliant with the European Directive 2009/23/EC on Non-Automatic Weighing Instruments (NAWI).

- Class III NAWI
- Single range 1 x 3 000 or 1 x 6 000
- Dual range 2 x 3 000 or 2 x 6 000

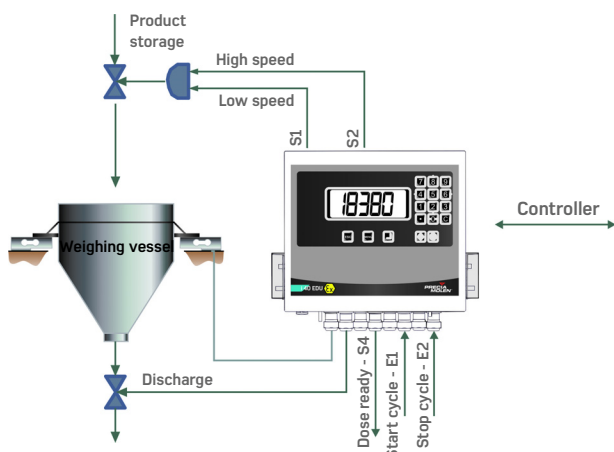
## Physical Characteristics



- Stainless steel 304L
- Weight: 4 kg
- Includes a swivelling universal bracket for tabletop, wall or column installation.

## Functionalities

### Block diagram



### Cycles

- Loading or unloading dosing in gross or net weight
- 2-speed actuator control (high speed/low speed)
- Automatic output error acknowledgement (chute column)
- Dosed weight tolerance control
- Discharge cycle (if loading) and buffer vessel filling (if unloading)

### Inputs / Outputs

- 4 isolated digital outputs 30 V DC/100 mA.
- 2 digital inputs 8-30 V DC - 15 mA

#### Allocations

Inputs	Outputs
Set zero	Cycle in progress
Tare with stability	High speed
Tare without stability	Low speed
Gross weight recall	Discharge / Filling
Reset statistics	Out of tolerance
Cycle start / restart	Dose ready
Pause cycle	Fault
Abandon cycle	Cycle paused
	Stable weight
	System available

### Statistics

Indicator display of the number of doses made, min and max weights, total weight, average weight and standard deviation.

### Communication

- 1 configurable RS232/RS485 port
- Slave Modbus RTU protocol

## Accessories Supplied

- Translucent front protection shell, may be kept in place during use.

## Options

### Communication by field bus

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

### Analog output\*

- 4-20 mA or 0-10 V analogue output
- Galvanic isolation 1500 V RMS
- Possible to read negative weight values in the 0-4 mA range
- Instant gross or net weight image

\* Exclusive options : Either one of field bus connections marked with an asterisk, or an analogue output.

### Serial communication

- Peripheral type USB port
- 1 RS 232 port
- Protocols : Slave RTU Modbus, PM A+ slave and PM A+ master (repeater).

### TCP/IP communication

- 1 10/100 Mb RJ 45 Ethernet port
- PM A+ slave and PM A+ master (repeater) protocol.

### µSD Card

- Allows parameter backup / restore.
- Data Storage Device (DSD) with 300 000 records for trade use.

### Junction box

Enables direct connection to 2 to 4 4 or 6-wire analogue load cells

### Internal power supply

- Voltage ..... 100-240V AC 50/60Hz
- Power consumption ..... 0.35 A

### Power supply linking

8 terminals to link the 24 V power supply (maximum current 10 A). Maximum section 2.5 mm<sup>2</sup>



### Your specialist

Non contractual illustrations. Precia-Molen reserves the right to alter the characteristics of the equipment described in this brochure at any time.

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