NORGREN

Excelon® Plus

Integrated Electronic Pressure Sensor (IEPS)
Quick start guide

CN – 欲了解更多信息和其他言版本，描二或登:
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www.norgren.com/excelon-plus

TECHNICAL DATA

Fluid: Maximum pressure:	Compressed air only 0 ... 10 bar (0 ... 145 psi)
Operating and storage temperature	-20 ... +65ºC (-4 ... +149ºF) Air supply must be dry enough to avoid ice formation at temperatures below +2ºC (+35ºF)
Shock and vibration	According to EN 60068-2-6
Degree of protection	IP40
Materials	Covers - ABS Overlay - Polyester
Repeatability	≤0.1% of full scale (FS) at stable temperature
Accuracy (total error over temperature)	≤1.5% (0ºC to 50ºC) ≤2.5% (-20ºC to 65ºC)
Process data update rate	1Hz
Electrical connection	M8 x 1
Power supply	24V DC ±25%
Current consumption	20mA (outputs not active)
Communications protocol (optional)	IO-Link revision V1.1 Bitrate: COM2 Minimum cycle time: 20ms SIO mode support: No Block parametrization: Yes Data storage: Yes
Switching output	Configurable NPN / PNP / Push-Pull / normally high / normally low / high impedance.
Load current	100mA with short circuit protection

CAUTION

Water vapour will pass through these units and could condense into a liquid form downstream as air temperature drops. Install an air dryer if water condensation could have a detrimental effect on the application.

See the datasheets for R84G, B84G and Q84G for more detailed information.

WARNINGS

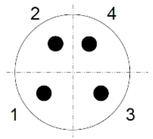
1. These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under Technical Data.
2. These products do NOT have ATEX approval. Do NOT use where an explosive atmosphere may be present.
3. Before using these products with fluids other than air, non-industrial applications or for life-support systems, consult Norgren.
4. To ensure safe operation these products should be used with a power source that is a limited energy supply within the meaning of EN 61010-1, and that meets the requirements of EN 61010-1 or an equivalent safety standard.
5. The Excelon Plus Integrated Electronic Pressure Sensor (IEPS) is supplied integrated into a regulator, filter regulator or as a stand-alone unit that matches the Excelon Plus module form. Warnings and instructions contained in the Excelon Plus Installation and Maintenance Instructions (document 13911-C01) may also apply.

PNEUMATIC CONNECTION

The Excelon Plus Integrated Electronic Pressure Sensor (IEPS) is supplied integrated into a regulator, filter regulator or as a stand-alone unit that matches the Excelon Plus module form. Follow the installation instructions provided with the unit that you purchased. These are contained in the Excelon Plus Installation and Maintenance Instructions (document 13911-C01) sheet that was supplied with your product.

ELECTRICAL CONNECTION

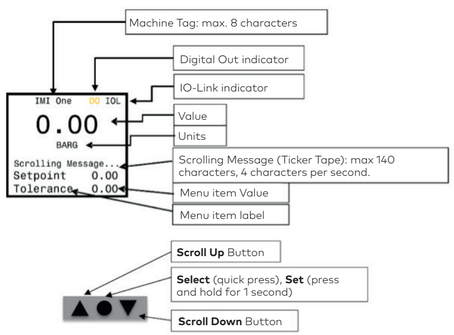
Electrical connector pins looking into the mating end of the standard M8 connector:



Pin-No.	Function
1	+24V DC supply
2	DO – digital switching output
3	0V common
4	CQ – IO-Link data

Ensure connectors are clean and free of debris before making the connection.

DISPLAY AND MENU CONTROLS



Background colour of the display:			
Green	**Amber**	**Red**	**White**
Pressure normal (inside the set limits).	A fault condition exists. The scrolling message offers advice to correct the fault.	Pressure outside the set limits.	Edit mode. The scrolling message offers advice on next steps

WARNING

Fault and warning messages will remain on the display until cleared by pressing Set, even after the cause of the message has been resolved.

MENU OPERATION

M1 On power on, the IEPS is initially in read-only gauge mode. Use the Scroll buttons to move to the next menu item and view the associated value.

M2 Press Select to enter edit mode. Screen changes to black and white with the active menu item highlighted. Basic instructions are displayed on the scrolling message.

M3 Enter the PIN requested (the default PIN is 0000). To enter the PIN, press the Scroll buttons to change the value of the highlighted digit. Press Select to move to the next digit. When you have finished entering the values, press Set (hold circle button for 1 second).

M4 Press Select to edit menu item value or press Scroll buttons to move to next menu item. When Select is pressed a cursor highlights the first digit of the menu item.

M5 Press the Scroll buttons to change the value of the highlighted digit or press Select to move to the next digit.

M6 When you have finished editing the values, press Set (hold circle button for 1 second) to return to the edit mode. Scroll to the next menu item or press Set again to return to gauge mode.

M7 The IEPS will automatically exit edit mode and return to gauge mode if there is no button activity for 30-seconds. In this event, no changes will be saved.

WARNING

As a minimum it is recommended that the gauge should be configured with the required Setpoint, Tolerance and Hysteresis. The values that can be entered are limited by the software.

Maximum Pressure > Setpoint > Tolerance > Hysteresis > 0
Setpoint + Tolerance < Proof Pressure
Setpoint – Tolerance > 0 bar (0 psi, 0 MPa)

MENU OPTIONS

Menu item	Editable (e) or information (i)	Description
Setpoint	e	The target pressure for the process, in units of pressure.
Tolerance	e	The pressure range about the setpoint that is acceptable (acceptable pressure = setpoint ± tolerance), in units of pressure.
Hysteresis	e	The degree by which the acceptable pressure range is reduced after the pressure has exceeded the setpoint ± tolerance range. The IEPS will not consider the pressure to have returned to an acceptable level until it is within: setpoint ± (tolerance – hysteresis). Units of pressure.
PresUnits	e	The units of pressure: bar, psi or MPa.
TempUnits	e	The units of temperature: °C or °F.
Rotation	e	0° or 180°. Allows display and button function to be rotated so that a regulator can be mounted upside-down. NOTE: DO NOT MOUNT FILTER-REGULATORS UPSIDE-DOWN, the filter will not function unless the bowl is in the correct orientation.
DOType	e	Sets the digital output to NPN, PNP or PP (push-pull). Push-pull outputs can drive either NPN or PNP inputs but cannot be combined with other signals.
DONormal	e	Normally high (HIGH) or normally low (LOW). Indicates the state of the digital output when pressure is in the acceptable range (assuming that the output is correctly connected for NPN / PNP / PP operation). High impedance (HIZ). In high impedance state the pin does not drive any signal and may be connected to active pins if necessary.
PIN	e	Shows current PIN. Change this to a new PIN. This item will only appear in Edit mode.
Hrs Run	i	Number of hours the unit has been powered since last powered on or reset.
Days Total	i	Total number of days that the unit has been powered.
Voltage	i	The voltage of the power supply measured by the unit.
Temp	i	The temperature seen by the sensor in the unit. This is typically higher than ambient because of power dissipation from the active electronics.
Version	i	Software version.

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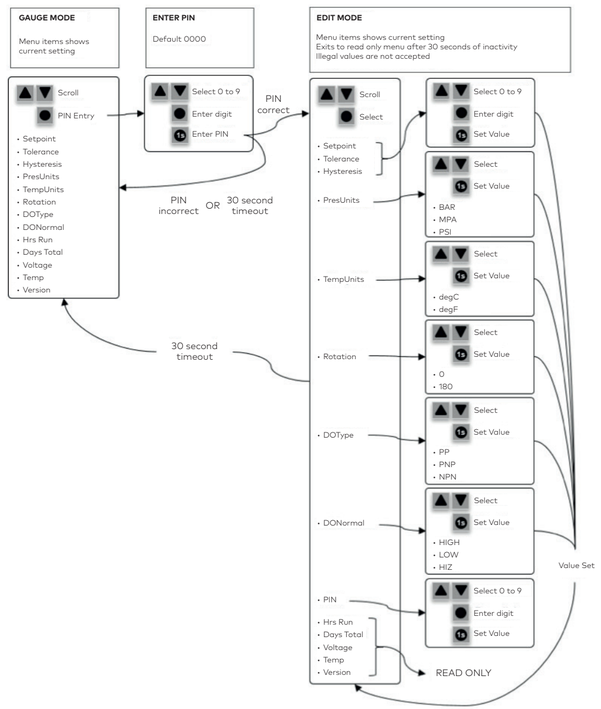
MENU MAP



IO-LINK OPERATION

Download the IODD file from: https://www.norgren.com/uk/en/technical-support/software

Connect the gauge to an IO-Link master for IO-Link operation.

Process data

The measured pressure is continually transmitted to the IO-Link master and any connected PLC systems. In addition to pressure, the device operating temperature and supply voltage are transmitted. Each data field has a status byte indicating whether the data is valid.

Name	Type	Description	Units
Process Pressure	32-bit floating-point value	The pressure measured by the device.	bar
Device Operating Temperature	32-bit floating-point value	The temperature measured by the pressure sensor in the device. This is typically higher than ambient because of power dissipation from the active electronics.	°C
Device Supply Voltage	32-bit floating-point value	The voltage of the power supply measured by the device.	Volts

Parameterization

The Parameter menu defined in the IODD allows the operating parameters to be set. It is suggested that the following parameters are configured with the required values, as a minimum:

Parameter	Description
Setpoint	The target pressure for the process, in units of pressure.
Tolerance	The pressure range about the setpoint that is acceptable (acceptable pressure = setpoint ± tolerance), in units of pressure.
Hysteresis	The amount by which the acceptable pressure range is reduced after the pressure has exceeded the setpoint ± tolerance range. Units of pressure.
Pressure Units	The units of pressure measurement: bar, psi or MPa.
Temperature Units	The units of temperature: °C or °F.
Digital Output Type	Sets the digital output to NPN, PNP or PP (push-pull).
Digital Output Normal	Normally high (HIGH), low (LOW) or high impedance (HIZ)

WARNING

Refer to the Operation Manual for full details of all the parameters that can be used to configure the gauge, identifying parameters, and other features. Also refer to the Operating Manual for the information required to operate the gauge without the IODD.

For the product IODD file, please use the online link http://s.norgren.com/digitalgauge-iodd.
For a copy of the Quick Start Guide or the full User Guide, please visit the
the following online link: www.norgren.com/de/de/excelon-plus

https://www.norgren.com/uk/en/imi-norgren/excelon-plus

EU DECLARATION OF CONFORMITY

Product: Excelon Plus Integrated Electronic Pressure Sensor

Manufacturer: Norgren Ltd
Blenheim Way, Fradley Park,
Lichfield, Staffordshire.
WS13 8SY
UK

We declare that this declaration of conformity is issued under the sole responsibility of the above manufacturer.

Object of the declaration: Part numbers of the form: R84G-***-R*E;
B84G-***-***-R*E; B84G-***-***-R*E-BS; Q84G-**N-NNE
Where * represents a letter or digit.

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation(s):
Directive 2014/30/EU (The EMC Directive)
Directive 2011/65/EU as amended by 2015/863 and 2017/2102(The RoHS directive)

The following harmonised standards and technical specifications have been applied:
EN 61000-6-2:2019
EN 61000-6-3:2007+A1:2011
EN 50581:2012

Signed for and on behalf of:

Date of issue: 20/10/2020
Place of issue: Blenheim Way, Fradley Park, Staffordshire, UK
Name: JAMES ROBINSON
Signature:

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT

This product is regulated by the EU WEEE Directive for waste electrical and electronic equipment. Dispose of the product properly and not as part of the normal waste stream. Observe the regulations of the respective country: information can be obtained from the national authorities.

WARNING

These products do NOT have ATEX approval. Do NOT use where an explosive atmosphere may be present.

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The data specified above only serve to describe the product. No statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of exercising judgement and verification. It must be remembered that our products are subject to a natural process of wear and ageing.

Printed in England.
These instructions were originally written in English.