Model 6020-Exd - Dewpoint Hygrometers

For Ex Hazardous areas Zone 1, 21, 2 and 22

Enclosure.
IP66 Rating.

Features and Benefits

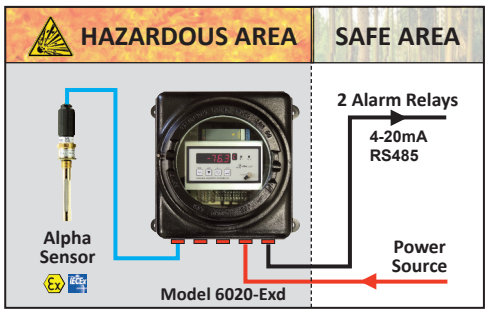
- GUBH Flameproof Enclosure Ex II 2 G D
- Designed for installation in Ex Hazardous areas Zone 1, 21, 2 and 22. Flameproof to ATEX and IECEx certification for use in potentially explosive atmospheres
- Isolation Zener Barrier housed in the Exd Enclosure
- Heat-resistant toughened glass observation window
- On board pressure dewpoint calculator, including data for Natural Gas
- Units selectable for °C and °F Td, ppm(v), ppm(w), g/m³ or lb/MMSCF
- Range of enclosures available

Model 6020-Exd is a single channel, online hygrometer with a built-in Zener Barrier designed to accurately measure trace moisture in process gases utilising a range of dedicated, ultra high capacitance, field mountable dewpoint sensors.

The Model 6020-Exd Dewpoint Hygrometer is located in the Hazardous Zone. The GUBH Flameproof Enclosure Ex II 2 G D is flameproof to ATEX and IECEx Certification for use in potentially explosive atmospheres.

The system incorporates an automatic calibration (AutoCal) facility and encompasses measurement needs from -110°C to +20°C (-166 °F to +68 °F) dewpoint. The Sensor is highly sensitive and has been designed and conditioned for long term stability and accuracy.

Additionally, the sensor is ATEX certified for intrinsic safety so can be used in hazardous environments with the zener-barrier housed within the Exd Unit.



There are three Hot Key front panel key functions to gain rapid access to set alarms trip points and choice of displayed engineering units. These functions can be locked to prevent unauthorised tampering.

Model 6020 contains two independent, fully user programmable alarm contacts to provide all the versatility required for any application. A digital communication channel is provided via a RS485 serial connection for remote interrogation of measured values and status of alarms and instrument.

Should the need arise to set up the instrument differently to the factory provided configuration then a highly flexible, user configurable setup menu is built in. The features within the setup menus are protected by user configurable passwords to limit access and protect against unauthorised changes.

Specifications

DISPLAY - Model 6020

Type:	Red 7-segment 5-digit primary display, and secondary display.
Height:	14mm (0.71inches) primary display, 7mm (0.3 inches) secondary display.
Annunciators:	Alarm 1 and Alarm 2 status LEDS.

SENSOR

Intrinsic Safety Certification:	Sira 02ATEX2130X. IECEx BAS 16.0082X. CSAE 21UKEX3447X.

ATEX, UKCA and IECEx Markings:

II 1G, Ex ia IIC T6 Ga (Ta = -20 °C to +50 °C)

Ex. ia IIC T6 Ga (-20 °C ≤ Ta ≤ +60 °C)

Standard Dewpoint Ranges Available:	Various between –110 °C to +20 °C / -166 °F to +68 °F
Accuracy:	Better than ±2 °C (3.6 °F) over full range
Operating Temperature:	–20 °C to +50 °C
Storage Temperature:	–50 °C to +70 °C

Specifications Continued

Operating Humidity:	0-90% RH non-condensing
Mechanical Connections:	M14 x 1.25mm pitch
Electrical Connection:	Standard male coaxial plug to sensor with BNC coax connection to display.
Approvals:	CE, UKCA, ATEX, IECEx.

RELAY OUTPUT 1 AND 2

Contact Type:	Single pole, changeover (SPCO)
Rating:	10A resistive, 120/240V, 50/60Hz
Lifetime:	>100,000 operations at rated voltage/current
Isolation:	1000 Vrms

LINEAR (RE-TRANSMITTED) OUTPUT

Ranges Available:	0-20mA or 4-20mA linear in units selected
Accuracy:	±0.5% max of display value
Load Impedance:	500Ω max

LOGGING SOFTWARE TYPE:	Please refer to the Logging Manual (Reference 2062) for full specifications.

SERIAL COMMUNICATIONS

Data Format:	Open; one start bit, even parity, seven data bits and one stop bit.
Physical Layer:	RS485.
Maximum No. of addresses:	99.
Baud Rate:	Selectable – 1200, 2400, 4800 or 9600.

ENVIRONMENTAL

Approvals:	CE, UKCA
EMC:	Certified to BS EN61326-1
Safety:	Complies with BS EN 61010-1
Instrument Front Panel Seal:	To IP54

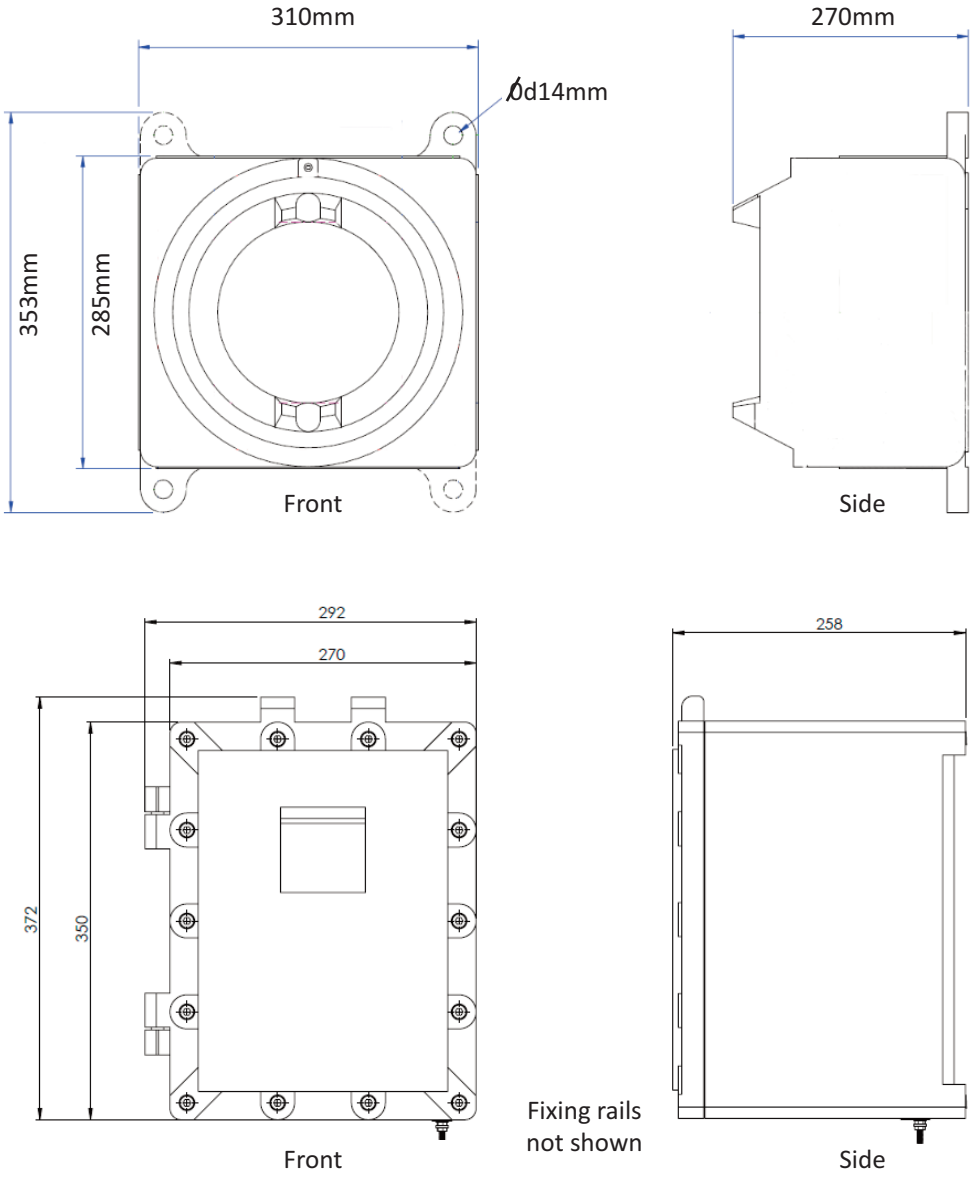
PHYSICAL (CONTROL UNIT)

Reference Conditions	
Supply voltage:	**Factory Set Options** AC: 90 – 250VAC, 50/60Hz DC: 18-28VDC
Power Consumption:	AC=10VA/DC=4VA max
Operating Conditions Temperature:	-20 °C to 60 °C
Relative Humidity:	0-95% non-condensing
Dimensions:	Height: 66mm, Width: 135mm, Depth: 108mm without sensor connector.

ENCLOSURE MATERIALS AND FINISH

Body and Cover:	GUBH Flameproof II 2 G D (Porthole type) / EJBWH Flameproof II 2 G D Copper free aluminium alloy LM25. (EN AC-42000), (BS EN 1706:1998) with less than 0.2% copper content.
Mounting plate:	Mild steel zinc plated (Passivated).
Window:	Heat resistant toughened glass.
Finish:	Chromate primed and polyester powder coated.
Earthing:	Enclosure is supplied with a 6mm stainless steel (18/8) internal and external earth stud as standard.
Cable Entries ports and Thread Sizes:	Available ISO metric M20-M90 1/2”- 3” NPT.

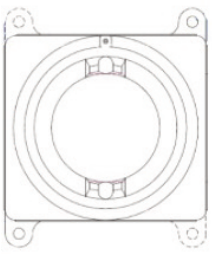
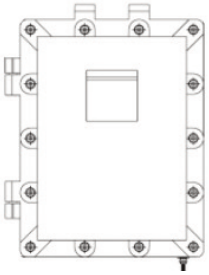
Dimensions



Other Exd Enclosures are available

How to order

1 Exd Enclosure: Option + [XX]

Option A - Port-Hole Type	Option B - Oblong Type
	

Note: Other Exd Enclosures are available - Contact us for more details

How to order - Continued

2

Model 6020-Exd

Range +[XX] Units +[X] Alarm1 +[XX] Alarm2 +[XX] Holder +[X] Cable +[X] Logging +[X]

Select a Sensor Range Below

SR:	-110 °C to -20 °C	(-166 °F to -4 °F)	dewpoint
PL:	-100 °C to 0 °C	(-148 °F to +32 °F)	dewpoint
SD:	-100 °C to +20 °C	(-148 °F to +68 °F)	dewpoint
BL:	-80 °C to +20 °C	(-112 °F to +68 °F)	dewpoint
RD:	-80 °C to -20 °C	(-112 °F to -4 °F)	dewpoint
GY:	-80 °C to 0 °C	(-112 °F to +32 °F)	dewpoint
HD:	-65 °C to +20 °C	(-85 °F to +68 °F)	dewpoint

Select a Display Unit

°C Dewpoint	**C**
°F Dewpoint	**F**
ppm(V)	**V**
lb/MMSCF	**L**
g/m^3	**G**

Select Alarm 1 Configuration

High Alarm, Direct action (normally de-energised relay)	**HD**
High Alarm, Reverse action (normally energised relay)	**HR**
Low Alarm, Direct action (normally de-energised relay)	**LD**
Low Alarm, Reverse action (normally energised relay)	**LR**

Select Alarm 2 Configuration

High Alarm, Direct action (normally de-energised relay)	**HD**
High Alarm, Reverse action (normally energised relay)	**HR**
Low Alarm, Direct action (normally de-energised relay)	**LD**
Low Alarm, Reverse action (normally energised relay)	**LR**

Select a Sensor Holder

None	**N**
1/4” Swagelok® Stainless Steel Compression Fitting	**4**
1/8” Swagelok® Stainless Steel Compression Fitting	**8**
6mm Swagelok® Stainless Steel Compression Fitting	**6**

Select a Longer Cable (optional)

The Sensor for Model 6020 is supplied with 2 metres of Coaxial connecting cable with BNC connection to the display as standard. For longer cables specify here in meters required.

Select Logging

No Logging	**O**
With Logging	**L**

Ordering Example:

To order **Model 6020-Exd** in a Port-Hole Type Enclosure, with a range of **-80 °C to 0 °C dewpoint**, both alarms to trip on rising dewpoint with normally de-energised relays, and sensor holder with 1/4” Swagelok® fittings, 5 meters of connecting cable, plus logging, the order code will look like this:-

Model 6020-Exd - Option A - GY - C - HD - HD - 4 - 5 - L

Corrosive Gases: The Sensor should not be exposed to corrosive gases (or corrosive contaminants in the gas sample) as these can chemically attack the sensor, impairing calibration accuracy and/or damaging it beyond economic repair. Examples of such gases are mercury (Hg), ammonia (NH_3), chlorine (Cl_2) etc. Strong oxidising agents such as ozone (O_3) should also be prevented from coming into contact with the sensor.

For more information on Hazardous and Zoned Area applications, please contact us.

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