Contents

1. Scope of Works / Description of Systems of Plant & Equipment

General Description

The standard system is supplied complete with an intrinsically safe control unit together with a high oil probe. The control unit is capable of monitoring up to 3 probe units, displaying their current status via a 2 x 16 display. The output relay enables this status to be signalled to a remote location or activate a beacon if required.

2. Suppliers and Manufacturers Directory

N/A

3. Manufacturers Information

Brook House, Larkfield Trading Estate
New Hythe Lane
Larkfield, Kent
ME20 6GN

+44 (0)1732 762338
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Technical Information

Electrical

Supply Voltage		230V ±10% 50Hz
Input Current	Normal condition	41mA
	Alarm condition	40mA
Galvanic isolation TB3 to TB1 / TB2	Safe electrical isolation acc. to EN 60079-11, voltage peak value 358V	
Fusing	Primary (FS2)	T 315mA H 250V
	Secondary (FS3)	50mA (Baseefa approved)
Max probe cable length		200m (less if values in Table 4 would be exceeded)
Relay Output		Volt-free SPCO contact 3A
Panel rating		IP65
Panel dimensions		180mm x 180mm x 60mm

Table 1 - Electrical Specifications

Apparatus Supply and I/O Parameters

U_m	253Vrms

Table 2 - Mains supply (TB3) and relay contact (TB2) terminals

U_o	12.6V
I_o	87mA
P_o	273mW
C_i	0
L_i	0

Table 3 - Hazardous area terminals (TB1)

The capacitance and either the inductance or inductance to resistance ratio (L/R) of the load connected to hazardous area terminals TB1 must not exceed the following values:

Group	Capacitance (µF)	Inductance (mH) OR	L/R Ratio (µH/Ω)
IIC	1.15	4.6	74
IIB	7.4	18.7	298
IIA	27	37.5	596

Table 4 - TB1 load parameters

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Probe Cables

The total capacitance and inductance of the cable used between the control unit and the probe must not exceed that shown in Table 4.

Mechanical

Protection and/or screening of the cable should also be taken into account. The maximum length of cable between probe and control unit must not exceed 200 metres or less if the values in Table 4 would be exceeded.

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Probe Enable Jumper Links

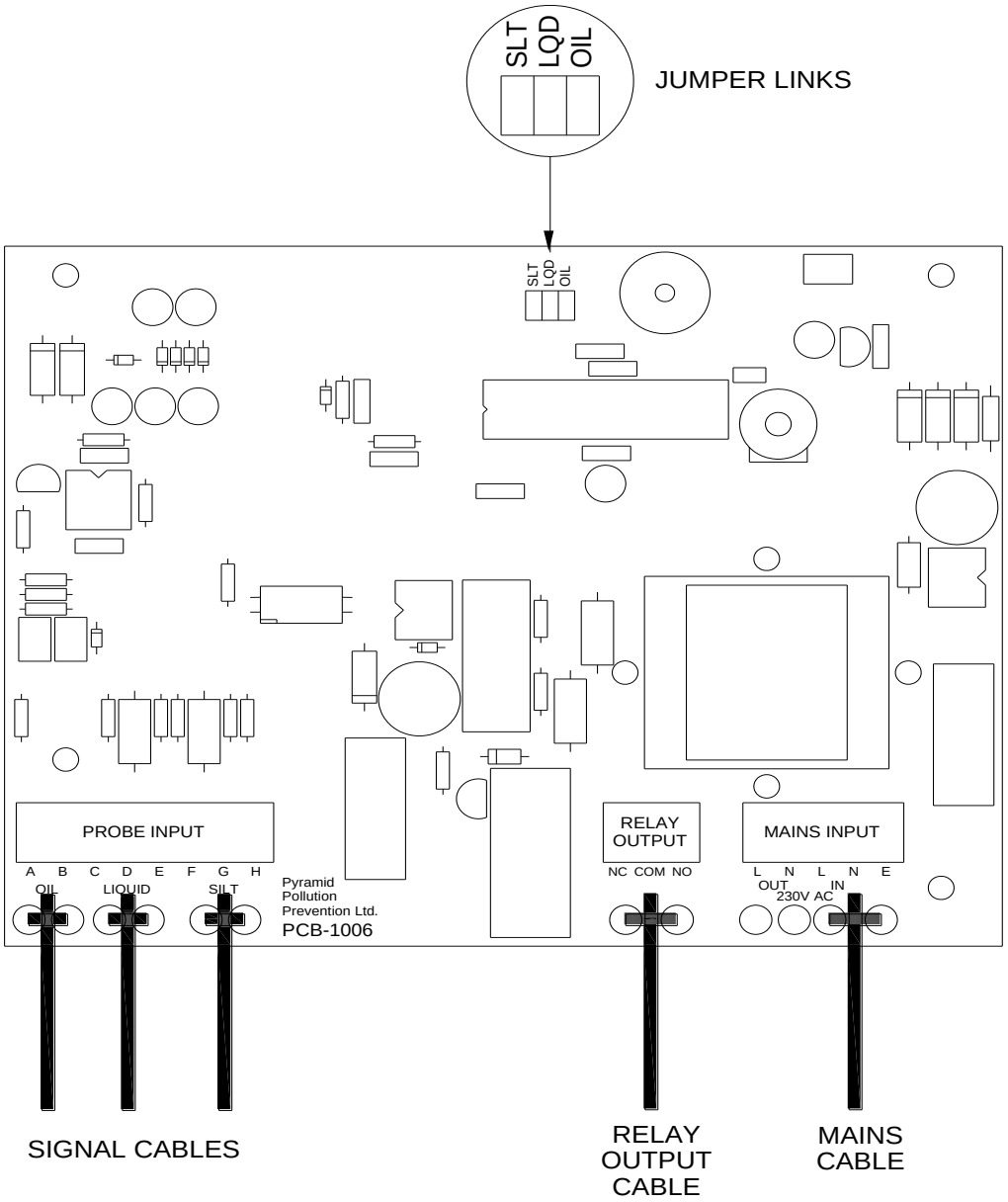

Figure 2 - Probe enable jumper links

To enable a probe, REMOVE appropriate jumper link

Probe Type	Remove Link
High Oil	OIL
High Liquid	LQD
Silt	SLT

Table 5 - Probe enable jumper links

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Probe Cable Terminals

Probe Type	A	B	C	D	E	F	G	H
High Oil	BROWN	BLUE						
High Liquid			-	RED	BLUE			
Liquid (Optical)			BROWN	GREEN/ YELLOW	BLUE			
Silt						BROWN	GREEN/ YELLOW	BLUE

Table 6 - Probes cable wiring connection details

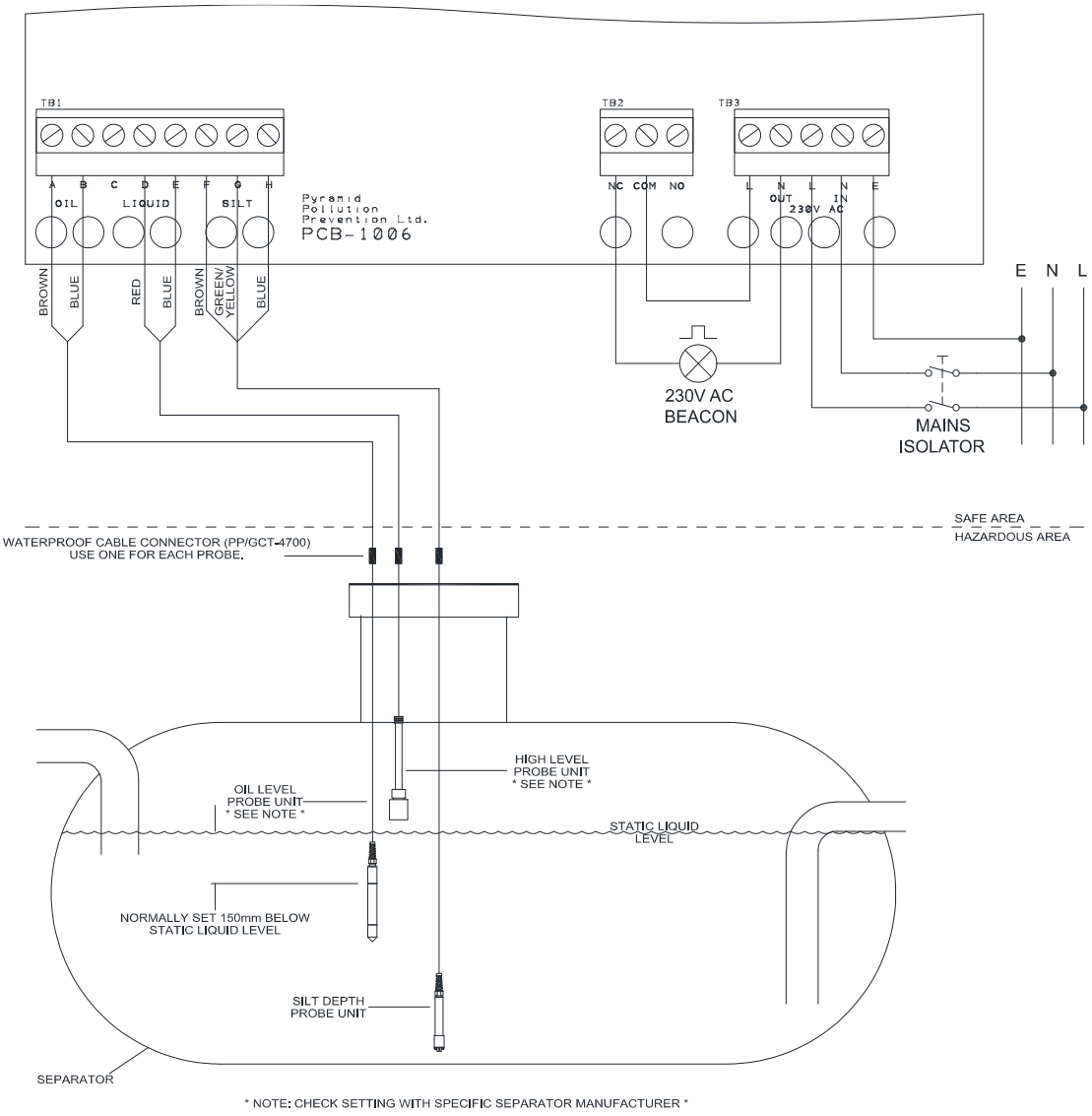

Figure 3 - 14300 separator alarm installation

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Flashing Beacon Wiring

The relay output terminals, TB2, may be used to operate a 230V flashing beacon when an alarm occurs. The beacon should be wired according to Table 7, Table 8 and Figure 3.

TB2 Terminal	Connect To
NO	No Connection
COM	TB3 Mains live
NC	Beacon Live Terminal

Table 7 - Wiring from relay output to beacon

TB3 Mains Terminal	Connect To
L out	TB2 COM Terminal
N out	Beacon Neutral Terminal
E	Mains earth

Table 8 - Wiring to mains terminals to beacon

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Accessories

High Oil Probe (conductivity)	PP/14200
High Level Probe	PP/14210
Silt Probe	PP/14220
230 VAC Flashing Amber Beacon (Includes mounting bracket and glands)	PP/14012
230 VAC Flashing Amber Beacon & Siren (Includes mounting bracket and glands)	PP/14100
Probe Cord Guide	PP/14103
Probe Mounting Kit	PP/14050
Signal Distribution Box	PP/14039
Junction Box (Power & Probe)	PP/14006
Waterproof Cable Connector	PP/GCT-4700

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Changing Factory Settings

Alarm Type

The factory setting is STD (standard), this is where the output relay de-energises upon fault detection and energises upon acceptance of the fault.

Alarm Type EXT (Extended) allows the relay to remain de-energised until all alarm conditions become normal.

To enter the “Set Up” mode, firstly remove power from the unit. Whilst holding down the Push Switch, power up the unit keeping the Push Switch depressed, after about 10 seconds the screen will display “Set Up”, at this point release the Push Switch.

The display will now show Alarm Type: with a flashing cursor over STD, to change this function to EXT, press the Push Switch once.

Check Interval

Whilst still in the Set Up mode, power down and then power up the unit, the flashing cursor will now be next to Check Intvl: - by pressing the Push Switch, the time can be altered in increments of 1 minute between 2 and 60.

To exit the Set Up mode at any time, hold the Push Switch whilst powering down and then power up again before releasing the Switch, this will return to the main screen sequence.

[1] The unit is factory set to 30 minutes, but in extreme conditions, this can be manually changed from 2 to 60 minutes at one-minute intervals. See Changing Factory Settings.

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Testing the Probe Sensors

The probe interrogation function can be activated at any time by simply pressing the push switch.

Installation

This product has been designed and certified as being intrinsically safe. It is of paramount importance, that the unit should not be modified in any way and the installation be carried out by an approved installer, in accordance with the Environment Agency guidelines (PPG3). Any deviation from this could invalidate the certification warranty and render the unit unsafe for its intended use.

Upon powering up the unit for the first time, the LCD will display the following message:

HAZARDOUS AREA EQUIPMENT

Control Unit

Refer to Table 4 on page 8 for required cable specifications.

The control unit must be positioned in a non-hazardous area. For all wiring details, refer to Figure 2, Table 5 and Table 6 on page 10.

Probes (High Oil & High Liquid Level Probes)

The high oil probe is to be installed in the separator tank such that the float housing is below the static liquid level. If a high liquid probe is required, this needs to be installed such that the float switch housing is located above the static liquid level. Both probe cables can be secured inside the neck of the separator using a probe cord guide.

Please note the distance above or below the static liquid level will be determined by the type, style and/or size of separator, this information can be obtained from the separator manufacturer. However, as a general *rule of thumb*, the high liquid level probe should be placed 300mm above the static liquid level and the high oil probe 150mm below.

Due to the varying neck lengths (turrets) that occur within each separator, each normal probe unit is fitted with 5 metres of cable.

Silt Probe

The probe is suspended in the separator to a pre-determined depth and the cable can be secured to the neck of the separator using a probe cord guide.

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Cable Distribution Box

It is advisable to connect the probe cables to a cable distribution box which should be fixed near to the top of the separator neck. The probe cable can then be terminated with a waterproof plug (provided with the distribution box). The plug is then connected to the bulkhead socket (provided with the distribution box). A cable must then be laid to connect the distribution box and the control unit. The type of connection cable required will be dependent on the environment it is used in, the route taken and maximum allowable cable capacitance and inductance (see cable parameters in Table 4 on page 8).

After making the connections in the distribution box, it is advisable to spray the terminals with a conformal coating lacquer to prevent moisture ingress before finally sealing them with waterproof putty.

Connection to Control Unit

The Probe cable should be fed through the appropriate gland in the bottom right hand side of the control unit and connected to the terminals as instructed. The mains cable, and if used, any beacon or sounder cable, must be fed through the appropriate gland on the bottom left hand side of the control unit and connected to the terminals as instructed.

IMPORTANT NOTE: Under NO circumstances must the control unit casing be drilled to allow cable entry in any area(s) other than those already provided, as this would infringe the certification and therefore safety of the product.

Using a Junction Box

An intrinsically safe junction box should be used where incoming cable sizes have to be reduced to gain entry through the cable glands in the base of the control unit.

IMPORTANT NOTE: Under NO circumstances must mains and probe cable joints be made within the same junction box other than a junction box that is approved Intrinsically safe for such purpose, as this would infringe the certification and therefore safety of the installed system.

4. As Built Drawings

N/A

5. Testing & Commissioning Results and Certificates

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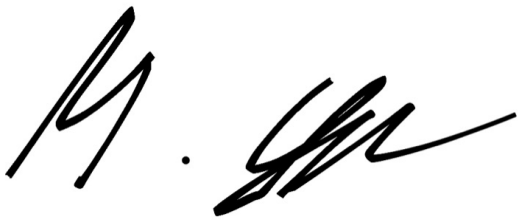
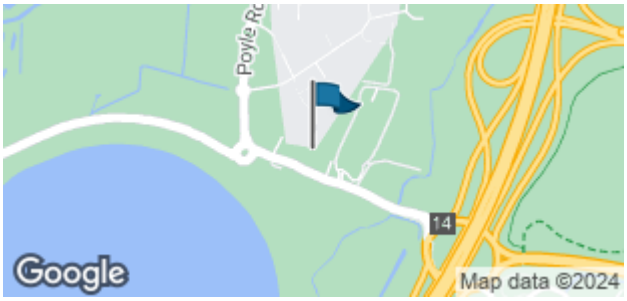
Aylesford
ME20 6GN

INSTALL/COMMISSION - IM ALARM

Customer	HUWS GRAY LTD - WINVIC CONSTRUCTION POYLE P23	Resource	ER12 Matthew Byrne
Contact	Brett Collins		
Address	Horton Road, Colnbrook Slough SL3 0BB	Job type	INSTALL/COMMISSION - IM ALARM
		Reference	LM 269460
		Order number	DFA04028
		Date	28/08/2024 08:00



Matthew Coffey



A Sheet Engineer Point of Work Risk Assessment		
	Answer	**Notes**
IS IT SAFE TO BEGIN WORK?	Yes	

A Tech IM Install Sheet		
	Answer	**Notes**
Are you able to begin the job?	Yes	
Do you need to carry out a pre works risk assesment?	Yes	

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Overview of works undertaken	Attended site to carry out installation of 1x mains alarm - on arrival found alarm panel had already been installed onto reception wall and power cables and probe cables installed into panel. Ran customers supplied 3core armoured cable from panel through into interceptor and installed probe in guide tube and set at correct depth. Connected probe cable to panel cable using an inline joint Powered alarm panel up using an inverter as no power at unit yet and inserted 12 month service code. Tested alarm panel which was displaying all correct Removed and left probe out to simulate high oil Tested alarm panel which was displaying high grease Advised customer that the alarm panel installed was for a grease trap and that the panel could be reprogrammed to display high oil or a new panel could be installed Reinserted probe back into guide tube in chamber Tested alarm panel which was displaying all correct Left panel isolated due to no power on site Before leaving site both alarm panel and probe working correctly

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Unit locations What 3 Words	Alarm panel - in reception learns.loves.wings Interceptor - in loading bay drums.thanks.saints
Product details and serial numbers	Alarm panel - mains 14320G 0000268 Probe - PP/14200
confirm types of unit installed	14320 Darcy Mains
Is this a Solar GSM?	No
Have you entered a 12 month service code?	Yes
Have you marked manhole lids?	N/A
Have you used any additional parts?	Yes
Please ask your site contact to sign to accept the additional parts charges	Andy
Comments	
Do you need to make a recommendation?	No
Do you need to return any parts to Birkenhead?	No
Are all works complete?	Yes

E Sheet Parts Used

	Answer	Notes
Parts Used From Van Stock List	PP/GCT_4700 Inline Joint	
Parts used other	1x inline joint	

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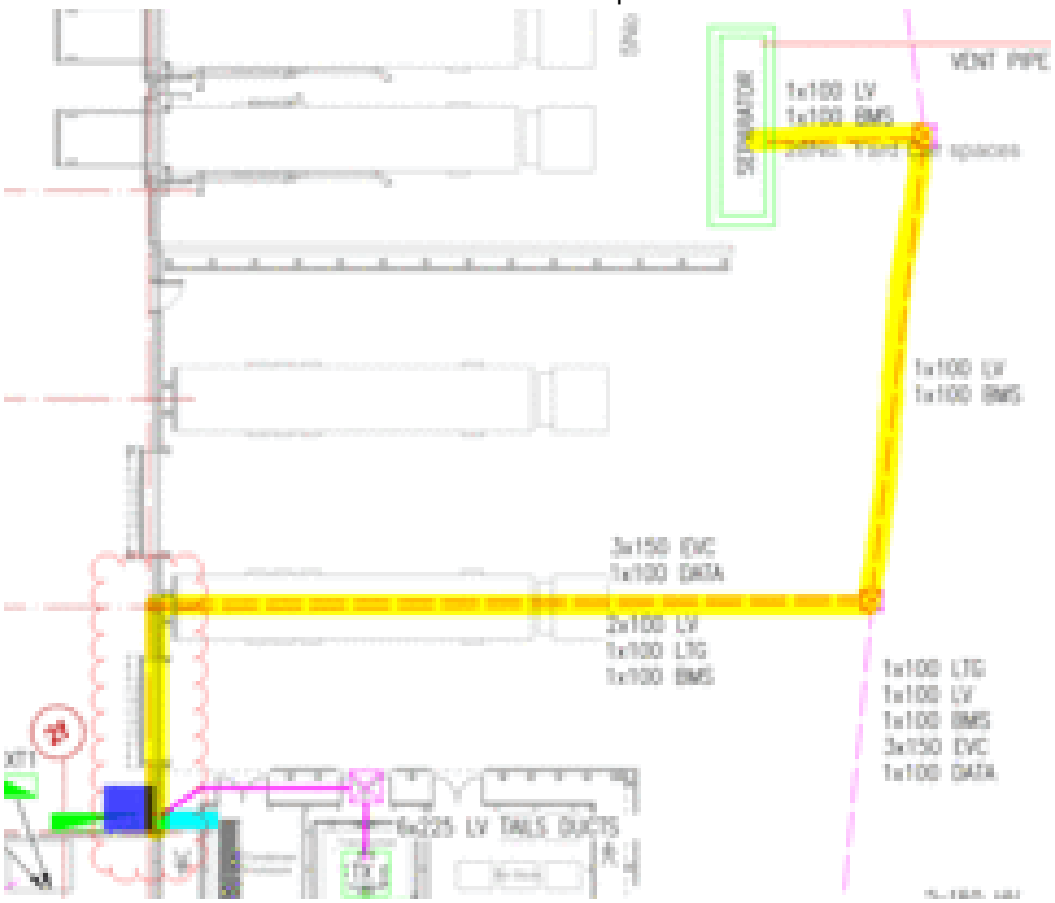
site pic



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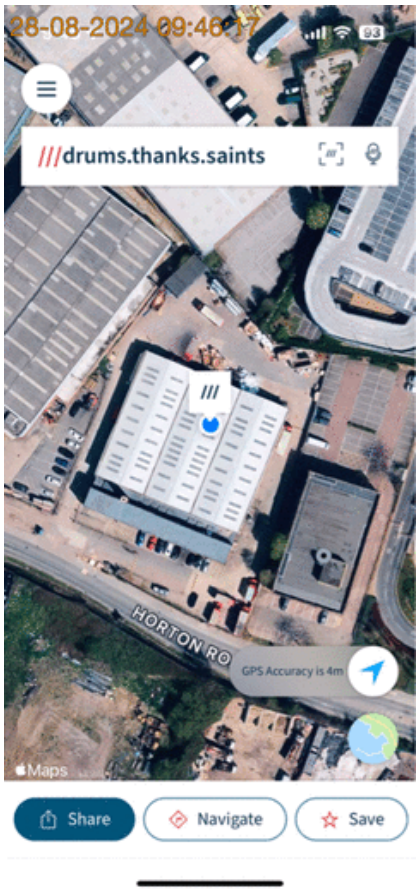

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Declaration of Conformity

The above product meets all the essential safety requirements of the European Directives and standards listed below, and is issued under the sole responsibility of the manufacturer.

Name and Address of Manufacturer	Darcy Products Ltd. Brook House Larkfield Trading Estate New Hythe Lane Larkfield Kent ME20 6GN
Valid for European Directives:	2014/34/EU
Equipment Name and Type	Separator Monitor Type 14300
Certificate Number	Baseefa 08ATEX0110
Specific Marking of Explosion Protection	[Ex ia Ga] IIC (-20°C ≤ Ta ≤ +50°C)
ATEX Directive Marking	Ex II (1) G
Notified Body	SGS Baseefa 1180 Buxton UK
CE Mark with Notified Body Number	CE_{0598}
Harmonised Standards Used	EN 60079-0:2018 EN 60079-11:2012
Serial Number and Year of Manufacture	Displayed underneath the control unit
On behalf of the above named company, I declare that, on the date the equipment accompanied by this declaration is placed on the market, the equipment conforms to all technical and regulatory requirements of the above listed directives. Jurgen Fenney – HSEQ Manager 26/09/23	

6. Operation

General Operation

The Control Unit monitors the condition of the connected probe units by checking their condition every 30 minutes1, their current status is displayed on the display located on the front of the unit. If an alarm condition is detected, a warning message is displayed followed by notification of the alarm condition detected, e.g. *HAZARD ALERT* High Oil Alarm, the output relay becomes de-energised and the internal buzzer is audible.

The unit then gives the option, via the display, to accept/acknowledge the alarm. On doing so, the output relay energises, the buzzer is muted, and the display instructs the user to take the appropriate action, e.g. empty the separator. After the separator has been emptied and refilled with water, the control unit re-scans the probe sensors attached and presuming no alarm condition is detected, ‘All Correct’ will be displayed. If the push button is pressed before the separator has been emptied, or it has been emptied but not refilled with water, then the control simply scans the probe sensor(s) and reverts to the alarm condition. Please note the output relay is de-energised on detection of any alarm condition or mains failure.

7. Maintenance Procedures and Planned Maintenance

Due to the harsh environments which the probes can be subjected to, it is advised that they are inspected and cleaned with a damp cloth at regular intervals. The control unit does not contain user serviceable parts. For all repairs, contact Darcy on 01732 441016.

8. Spares Information

N/A

9. Guarantees and Warranties

Certification

Job Reference Number:	**LM 269460**
Client:	**Huws Gray Ltd - Winvic Construction Poyle P23**

This certificate guarantees that the equipment detailed below has been installed and tested in accordance with the manufacturer's instructions and in line with the Environment Agency's Pollution Prevention Guidelines. The equipment has been demonstrated to be fully operational to the satisfaction of the customer/user.

Equipment Overview:	14320 Darcy Mains
Serial Number/s:	Alarm panel - mains 14320G 0000268 Probe - PP/14200
Works Completed:	INSTALL/COMMISSION - IM ALARM
Site Address:	Horton Road, Colnbrook, Slough SL3 0BB
Date of Attendance:	28/08/2024

Important Note: It is extremely important that any automatic alarm/ monitoring equipment is maintained every six months in order that it can reliably carry out its intended function. This is required within the Oil Storage Bill which covers bunded oil storage and Standard BS EN 858-1/2 for light Liquid Separators

If your equipment needs attention at any point please contact us directly on 01732 762338

10. Replacement Strategy

N/A

11. Demolition Decommissioning or Disposal

N/A