

## DIGIMATIC DML4AI ATEX & IECEx APPROVED CAPACITANCE LEVEL PROBE SENSOR

A fixed point RF, capacitance level control suitable for use in non-conductive liquid & free flowing granular solids. Approved for use in explosive dust hazard areas, such as flour mills, silo's, saw mills, paper mills. Multivoltage supplies, relay output, powershield technology - compensates for material build up/sticking to probe rod (prevents false signalling).

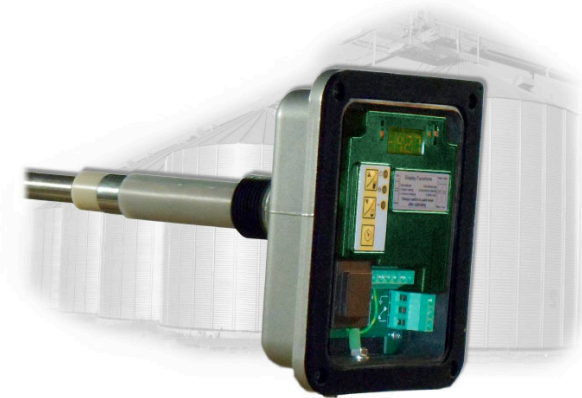
- ▶ ATEX/IECEx approved (explosive dust hazard area) - conforms to EN60079 directive(s).
- ▶ Programmable sensitivity for product being detected.
- ▶ Programmable output timer - prevents false signalling from material 'splashing' on probe rod.
- ▶ Powershield - prevents false signalling from material sticking/clinging to probe rod & side wall of container.
- ▶ LED display - used for calibrating sensitivity & timer settings, also shows material actual level sensing values in run mode.
- ▶ Multi Voltage Supplies: 24V dc or 110/240V ac.
- ▶ Relay output. Volt free change over contacts.
- ▶ 1" BSP male mounting thread.
- ▶ LED indication of Power On, Calibrating & Output state.
- ▶ Membrane keypad for programming sensitivity & timer settings.

### Options available:

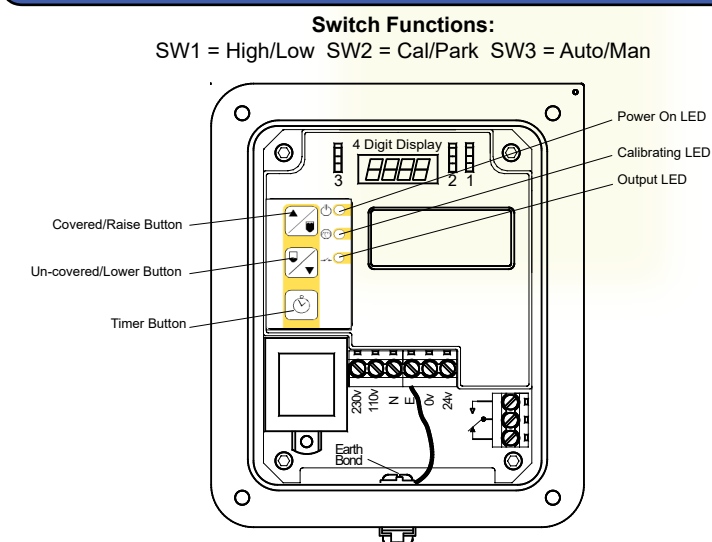
- ▶ **Short power shield** - 70mm long
- ▶ **Flush mounting** - 98mm dia, 53mm deep, with 4 x 9mm holes on 127 PCD flange mounting.

? = Probe Rod Lengths: 100mm x 24mm dia.  
30 cm x 16mm dia.  
1 metre x 16mm dia.  
2 metre x 16mm dia.  
10 metre wire rope & weight.

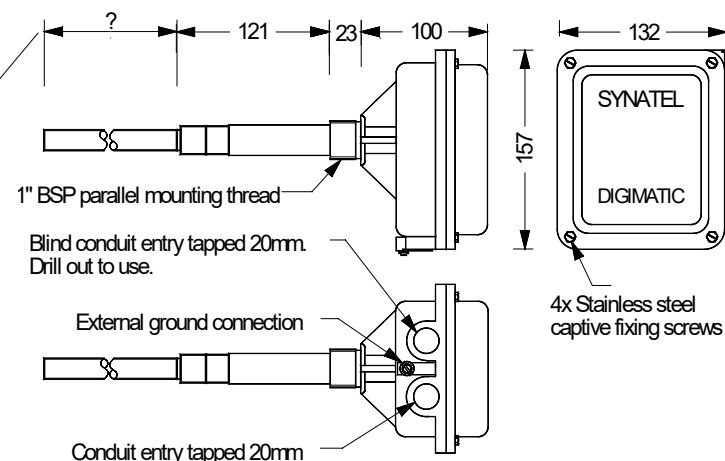
Note: 1 metre, 2 metre & 10 metre wire rope probes can be cut to length, on site using a hacksaw.



### CONNECTIONS/FUNCTIONS



### DIMENSIONS - standard unit



### ATEX Certificate Details - DML4AI:

Certificate No: TRAC11ATEX11268X  
ExII 1 (1)D

### IECEx Certificate Details - DML4AI:

Certificate No: TRC 12.0016X  
Ex ta[ia] IIIC T100°C  
-20°C ≤ Tamb ≤ +50°C IP65

**SYNATEL**  
INSTRUMENTATION LTD.



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Staffordshire. WS11 9TB UK

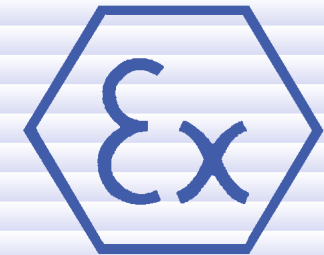
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Conform to relevant parts of BS EN 60079 Standards

## ATEX & IECEx APPROVED SENSORS CATALOGUE 7



### ALSO AVAILABLE FROM SYNATEL:

#### PHOTOELECTRIC SENSORS



#### PROXIMITY SENSORS



#### SPEED MONITORS



#### COUNTERS AND TACHOMETERS



#### LEVEL CONTROL SENSORS



#### SPECIAL SYSTEMS



**ATEX** Approved



xxxxxx? ATEX\_IECEx2015

## 18mm & 30mm ATEX & IECEx SENSORS

A range of sensors including: Inductive & Capacitive proximity switches, stopped motion and underspeed monitors all ATEX & IECEx approved to EN60079 directive. Certified for Dust or Gas hazard area use as shown. Units are fully encapsulated to help minimize effects from vibration & prevent moisture ingress.

- ▶ All units on this page are ATEX/IECEx approved (explosive dust/gas hazard area) - conforms to EN60079 directive(s).

### Inductive proximity sensor 18mm Diameter housing (1)

ID/E1MOAI  
ID1MZAI  
IE1MZAI

- ▶ 10-30V dc 4 wire npn/pnp connection (3) & (4), or 24-240V ac/dc 2 wire FET output connection (5)
- ▶ 8mm operating range, 50mA output, 100 Hz operating speed.



### Inductive stopped motion sensor 18mm Diameter housing (1)

SU1MZAI

- ▶ 24-240V ac/dc 2 wire FET output connection (5)
- ▶ 8mm operating range, 50mA output, 15-3600 ppm operating speed. (4 seconds between pulses min.).



### Inductive Proximity sensor 30mm Diameter Housing (2)

ID/E1TOAI  
ID1TZAI  
IE1TZAI

- ▶ 10-30V dc 4 wire npn/pnp connection (3) & (4), or 24-240V ac/dc 2 wire FET output connection (5)
- ▶ 8mm operating range, 100mA output, 100 Hz operating speed.



### Inductive Underspeed Sensor 30mm Diameter Housing (2)

PU1TZAI  
PU1TRA1

- ▶ 24-240V ac/dc 2 wire FET output connection (5) or 15-240V dc/24-240V ac 5 wire relay output connection (7)
- ▶ 8mm operating range, 10-3600 ppm operating speed. (20% trip below normal running speed).  
2 wire - 100mA output.  
5 wire - 3A non-ind. output.



### Capacitive Proximity Sensor 30mm Diameter Housing (2)

CD1TZAI  
CE1TZAI  
CD1TRA1  
CE1TRA1

- ▶ 24-240V ac/dc 2 wire FET output connection (5) or 15-240V dc/24-240V ac 5 wire relay output connection (7)
- ▶ Typically 25mm operating range (adjustable).  
2 wire - 100mA output.  
5 wire - 3A non-ind. output.



#### ATEX Certificate Details - 18mm Sensors:

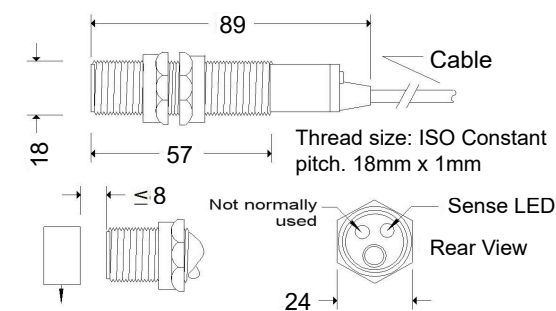
Certificate No: Baseefa14ATEX0115X  
ExII 2G Ex mb IIC T5 Gb  
ExII 2D Ex mb IIIC T100°C Db  
ExI M2 Ex mb I Mb

#### IECEx Certificate Details - 18mm Sensors:

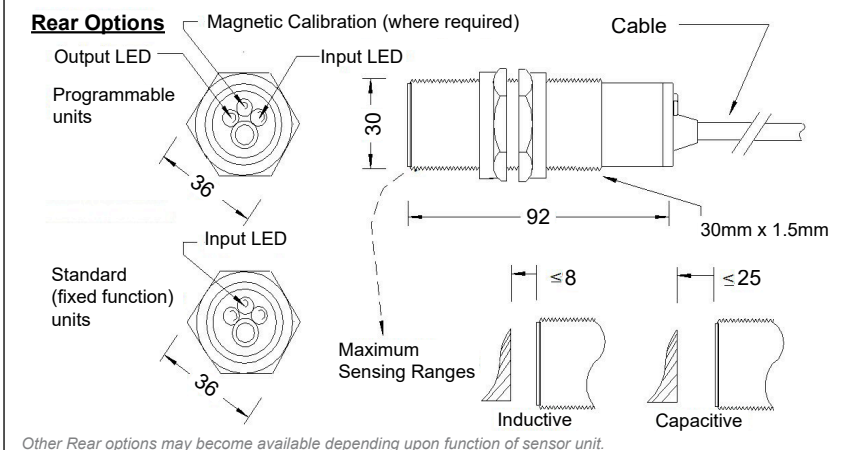
Certificate No: BAS 14.0061X  
Ex mb IIC T5 Gb  
Ex mb IIIC T100°C Db  
Ex mb I Mb  
-15°C ≥ Tamb ≥ +50°C IP66

## DIMENSIONS

### 18mm Diameter Sensors (1)



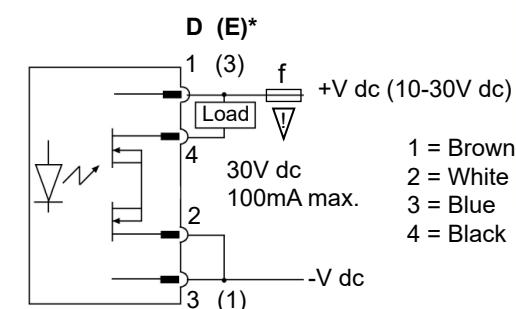
### 30mm Diameter Sensors (2)



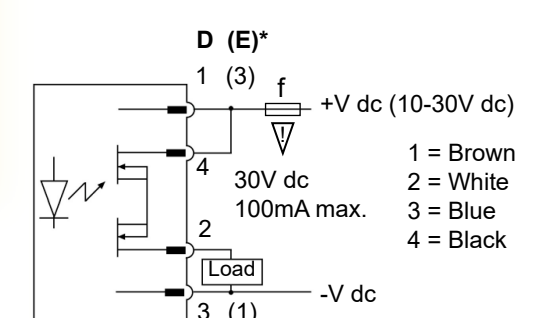
## CONNECTIONS (options)

### 4 wire dc connections (3)

#### Current Sink (nnp)

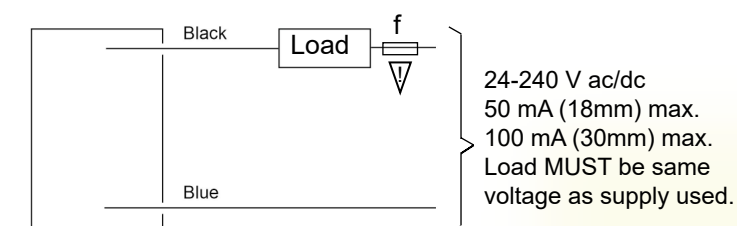


#### Current Source (pnp)



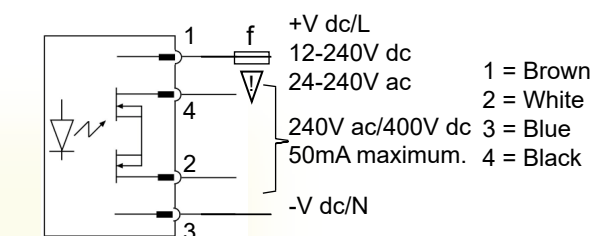
Note\*: Supply Connections: Output normally OFF - use D connections, Output normally ON - use (E) connections.

### 2 wire dc connections (5)



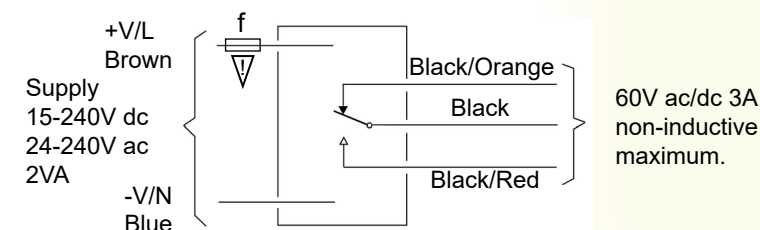
### 4 wire universal connections (6)

Note: Check supply voltage required is not only 10-30V dc before using these connections.



Note: additional output fusing may be required to suit application, local regulations, certification requirements.

### 5 wire relay connections (7)



Note: additional output fusing may be required to suit application, local regulations, certification requirements.

#### ATEX Certificate Details - 30mm Sensors:

Certificate No: Baseefa12ATEX0266X  
ExII 1G Ex ma IIC T5 Ga  
ExII 1D Ex ma IIIC T100°C Da IP66

## IMPORTANT NOTE!



Fusing: 1500A Capable (500mA maximum rating).  
1 fuse per unit **MUST** be used.

#### IECEx Certificate Details - 30mm Sensors:

Certificate No: BAS 12.0118X  
Ex ma IIC T5 Ga  
Ex ma IIIC T100°C Da  
-15°C ≥ Tamb ≥ +50°C IP66