

ATI: STEVE



## Plug-in Automation CONTROL MODULE FOR INDUCTIVE SENSORS

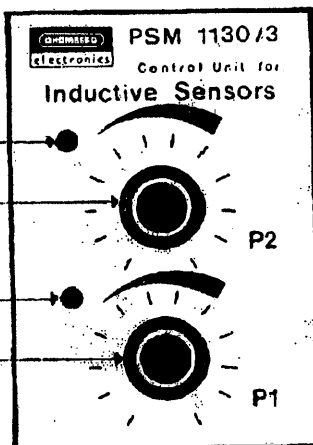
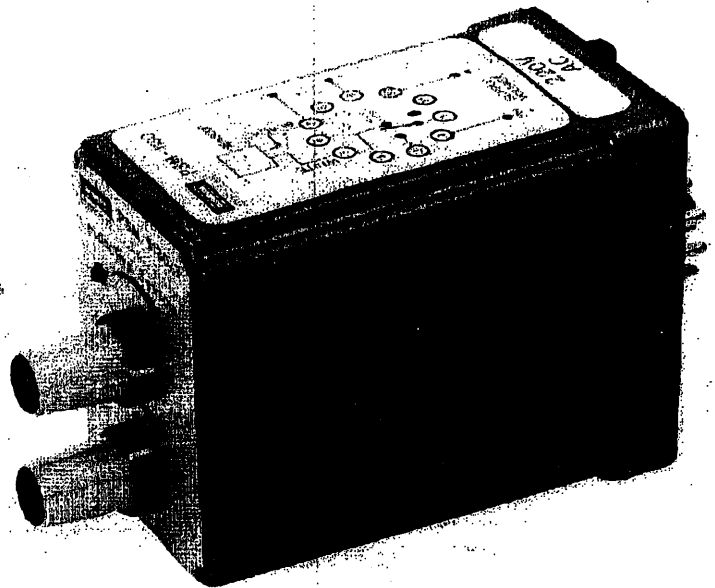
Type: PSM-1130/3

### DESCRIPTION:

The PSM-1130/3 control module is a transistorised switching amplifier for inductive proximity sensors to DIN 19234 (NAMUR). It converts the sensor signal into a switching signal, available either as a solid state or relay output. It can be programmed to accept either the presence or the absence of metal as a signal. Input signals of a duration shorter than selected on P1 do not result in an output. The output does not change immediately on removal of the input signal, but is delayed by a time selected on P2.

### APPLICATION:

This module is especially suitable for use with counters or control systems where conditioning of the sensed signal would normally require additional timers.



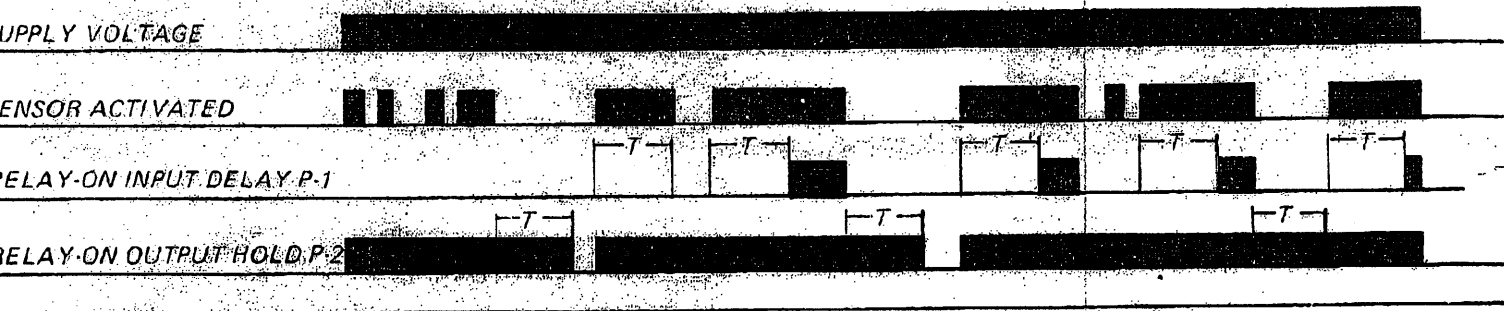
### DESCRIPTION OF OPERATION:

When supply voltage is applied, the PSM 1130/3 is ready to operate. The top LED extinguishes when metal is sensed. The bottom LED indicates the state of the output: the relay is de-energised and the solid state output is OPEN when the bottom LED is off.

- Pins 6 and 7 bridged:** When metal is sensed the top LED will extinguish immediately. The bottom LED will light up and the output will switch, after the metal has been sensed without interruption for the time set on the bottom potentiometer. When metal is no longer sensed, the top LED will light up immediately. The bottom LED will extinguish and the output will switch, after a delay set on the top potentiometer.
- Pins 8 and 7 bridged:** When absence of metal is sensed, the top LED will light up immediately. The bottom LED will light up and the output will switch, after the metal has been absent without interruption for the time set on the bottom potentiometer. When metal is sensed the top LED will extinguish immediately. The bottom LED will extinguish and the output will switch, after a delay set on the top potentiometer.

### Operation Controls

- 1 Input delay adj. P-1
- 2 Output hold adj. P-2
- 3 Metal sensing indication
- 4 Relay on indication



**TECHNICAL SPECIFICATIONS**

<b>SUPPLY</b>	
AC	
Supply voltage	12, 24, 48, 60, 110, 220, VAC ± 15% galvanically isolated from electronic circuit
Operating frequency	40-60 Hz
Isolation test voltage	2 KV
Power consumption	approx. 2,5 VA
Overvoltage protection	50% for 1 minute (50 Hz)
<b>DC</b>	
Supply voltage	12, 24, 48, 60, 110, 230, VDC ± 15%
Maximum ripple	100% (above 50 Hz)
Power consumption	approx 0,5W/12V 1,5W/24V less than 5 W on higher ranges
Overvoltage protection	100% for 1 minute on 12 and 24 VDC 15% for 1 minute on higher ranges.
Rating for continuous operation	100% ED
Voltage stabilisation	Yes
Transient protection	Yes
Operating Temperature	- 20°C to + 50°C
Supply interruptions	Will not react to interruptions less than 30 milliseconds
<b>CONTROLS</b>	
Adjustment	adjustment knob for delayed sensing on relative scale adjustment knob for output hold time on relative scale
Indication	LED indication for metal sensing LED indication for relay on or open collector output

<b>TIMERS</b>	
Input Pulse length	0,1 — 5 seconds
Output hold time	0,1 — 5 seconds
Repeatability	± 1%
Overall accuracy	± 5%

<b>OUTPUT</b>	
Relay contact	1 x single pole change over contact
Contact rating (resistive load)	380 VAC — 10 A — 2500 VA
Contact Isolation	2500 V

<b>SOLID STATE</b>	
Type	Open collector transistor
Output sink current	100mA/12VDC

<b>GENERAL</b>	
Weight	190g
Colour	Blue

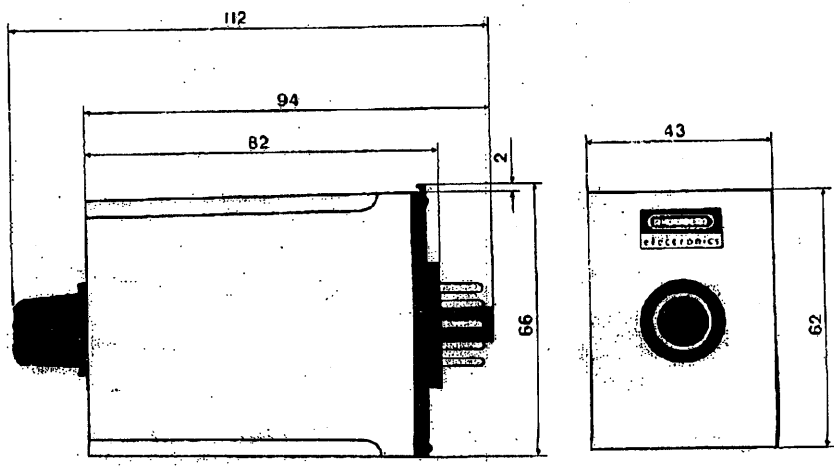
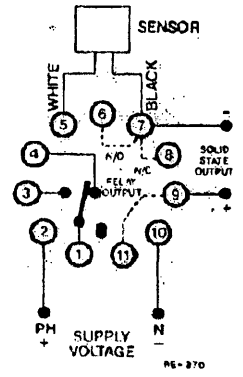
**WIRING AND CONNECTION:**

The supply voltage is connected to terminals 2 and 10, with terminal 2 phase or positive. The NAMUR proximity sensor is connected with the white wire to terminal 5 and the black wire to terminal 7. Open collector output is provided on terminals 9 (positive) and 7 (common negative). If relay output is required, terminals 9 and 11 are bridged. If an output is required when metal is sensed, terminals 6 and 7 are bridged. If an output is required when metal is absent, terminals 8 and 7 are bridged.

**SPARK QUENCHING:**

No spark quenching or unsatisfactory spark quenching will considerably reduce the relay life and switching frequency. The contacts of the relay should be bridged by a series — combination of a capacitor and a resistor. On most applications a capacitor 0,1 uF and a resistor 100 Ohms will be sufficient. In the case of inductive loads, voltage dependant resistors (VDR) have proved reliable contact protection. The VDR is connected parallel to the inductive load and will greatly reduce the voltage peaks occurring when the circuit is opened. The spark quenching device should be connected as close to the switching contacts as possible. In case of doubt, the spark quenching should be checked and corrected with the aid of an Oscilloscope.

**PSM - 1130/3 Connection Diagram**

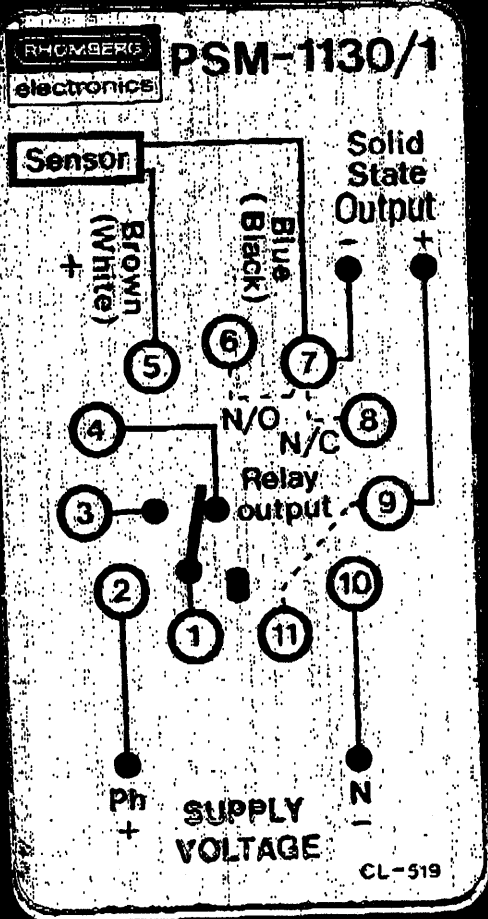


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Manufacturers of Electronic Devices and Components

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1/3 F is what we have now.



→ This is the old one.

110 V AC

2211 578-110

**PSM-1130/3**  
**Control Module**  
**for**  
**Inductive Sensors**



**Installation Instructions**

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● **Wiring:**

- 1) Connect the supply voltage to pins 2 (phase/ positive) & 10
- 2) Connect the proximity sensor 1130: white wire to pin 5 black wire to pin 7.
- 3) If relay output is required insert bridge between pins 9 & 11.
- 4) Relay contacts to be connected: 1 & 3 normally open  
1 & 4 normally closed
- 5) If solid state output for electronic counters etc. Is required, tap off open collector output pins 9 (positive) and 7 (common negative)

● **Programming:**

NOTE: Programming is essential for the unit to function properly.

- a) Metal Sensing: Interconnect pins 6 & 7
- b) Non-Metal Sensing: Interconnect pins 8 & 7

● **Description of Operation:**

The top LED indicated when no metal is sensed.

The lower LED indicates the state of the output i.e. the LED is illuminated when the relay is energized and the solid state output is conducted.

- a) Metal Sensing: When metal is sensed the upper LED will extinguish. Providing the metal has been sensed without interruption for the time set on the lower knob, the relay will energise and the LED will illuminate. When metal is no longer sensed, the upper LED will illuminate and after the delay set via the upper knob, the relay and lower LED will de-energise.
- b) No-Metal Sensing: When the absence of metal is sensed, the upper LED will illuminate. Providing the metal has been absent without interruption for the time set on the lower knob, the relay will energise and the lower LED will illuminate. When metal is sensed again, the upper LED will extinguish, and after the delay time set via the upper knob the relay will de-energise and the lower LED will extinguish.