ETS3000 SENTINEL INDUSTRIAL TEMPERATURE SWITCH/TRANSMITTER

LOW - MEDIUM - HIGH TEMPERATURE

Black anodised aluminium switchcase and covers to IP65 standards.

Temperature settings from -50 to 400 °C.

Digital indicator.

Dual relay output

Adjustable deadband

Remote sensing option 1 to 40 metres

Battery or 24V.DC supply

4 -20 mA loop output option.

The options available on this range are:
ETS3100 - fixed rigid stem with thermowell
ETS3200 - fixed rigid stem without thermowell
ETS3300 - remote sensor without thermowell

Temperature limitations
Process temperature :
-50 to +400°C
Thermowell and stem
material : 316 stainless.

Temperature ranges	Indication steps
1) -50 TO 150°C	1°C
2) 0 TO 100°C	0.5°C
3) 0 TO 200°C	2°C
4) 0 TO 400°C	2°C

PART NUMBER BREAKDOWN	*Available on remote version only	
3100 = WITH THERMOWELL **3200** = WITHOUT THERMOWELL	**P** = WITH THERMOWELL **S** = WITHOUT THERMOWELL	PROCESS CONNECTION **A** = 1/2" BSP.P. **B** = 1/2" NPT

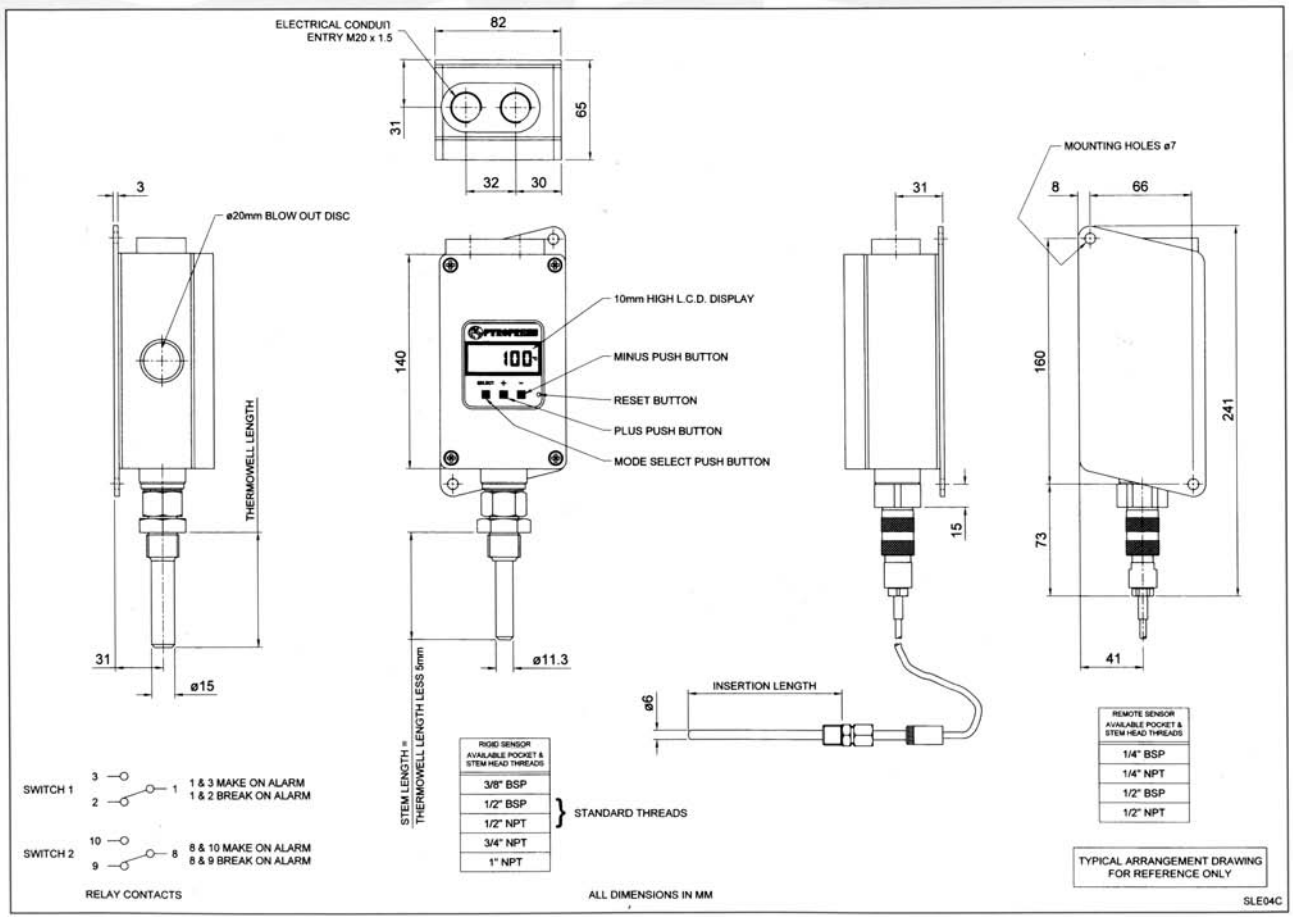
E T S 3 1 0 0 / 0 6 0 B O / P A

IMMERSION LENGTH FROM **060** TO **600**MM REMOTE SENSOR SUPPLIED WITH SLIDING GLAND	**BO** = BATTERY POWERED **MO** = 24V.DC NO RETRANSMISSION **M1** = 24V.DC WITH RETRANSMISSION	REMOTE CABLE **S** = STAINLESS STEEL **B** = TEFLON COATED

E T S 3 3 0 0 / 0 6 0 B O / S A 0 3 T

3300 = BRACKET MOUNTED WITHOUT THERMOWELL (THIS CAN BE SUPPLIED) SEPARATELY	**P** = WITH THERMOWELL **S** = WITHOUT THERMOWELL	PROCESS CONNECTION **A** = 1/2" BSP.P **B** = 1/2" NPT **L** = 1/4" BSP.P	**01** TO **40** EXTENSION CABLE LENGTH IN METRES

TYPE ETS3100, 3200 AND 3300 ELECTRONIC TEMPERATURE SWITCH



SENTINEL INDUSTRIAL INDICATING SWITCH/TRANSMITTER

INTRODUCTION

The Sentinel range of pressure & temperature switches are a part of our extensive range of specialist process sensors. They utilise the expertise gained from over 50 years experience of designing and manufacturing control devices for industrial and marine applications.

They are constructed with a robust aluminium enclosure with a black anodised finish. Covers are gasketted and sealed to achieve an environmental seal to IP66 standards. These switches embody a 10mm high 4 digit LCD indicator with microprocessor control, offering two independently adjustable set points each with an adjustable switching differential for rising or falling operation giving excellent repeatibility.

The LCD indicator provides a continuous display and provides visual indication of alarm and battery condition. Should the units range be exceded an over range warning is indicated. In addition a resettable minimum and maximum hold facility records and stores the lowest and highest values measured. The switch functions can be adjusted by means of three pushbuttons which are accessible upon removing the front cover

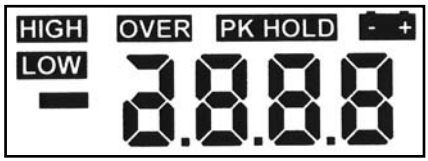
The battery operated version has the option of being able to force either or both relay outputs into alarm to indicate low battery condition. All setting and records are stored in a non-volatile memory to retain data during power loss (either from changing batteries or periodic electrical operation. The 24V.DC version with 4 – 20 mA loop output has the same memory back-up.

A “reset” pushbutton allows all settings to be set to factory programmed default. Customer default settings may be pre-programmed on request.

SEQUENCE OF OPERATION

Holding down the “select button” the user can gain access to view all of the options that can be adjusted or reset by using the plus and minus buttons.

1) High peak measurement
2) Low peak measurement
3) 1ST setting
4) Switching differential for 1ST setting
5) 1ST switch low battery latching option, or relay mode on 24V.DC
6) 2ND setting
7) Switching differential for 2ND setting
8) 2ND switch low battery latching option or relay mode 24V.DC



Switchcase and covers : Black anodised aluminium switchcase with a 316 stainless steel mounting plate.

Power supply : Option 1 – 2 x AA lithium batteries which will give a minimum of 12 months standby/indication or 1,000,000 relay operations.
Option 2 – 24V.DC +20%/-15% auxiliary supply with 4 – 20 mA loop output option.

Outputs : The switch has two output relays each with a change over contact.
Rating : 5A @ 30V.DC and 250V.AC. Max. switch voltage 125V.DC and 380V.AC.
Max. switch power : 240W, 2000VA. Min. contact load : 10mA @ 5V.DC
Contact material : Gold clad silver palladium. Initial contact resistance : 30mOhm
Relay contact electrical life : 100,000 operations minimum at max. rated load
Relay contact mechanical life : 50 x 10 ops minimum.

4 – 20 mA loop : Supply voltage 20 – 30V.DC. Load resistance 0 – 500ohm.

Set point adjustment : 0 – 100% continuously variable.

Accuracy : +/-1% LSD

Thermal drift : 0.04% per °C

Sample rate : Approx. twice per second.

Electrical Conduit Entry : Two M20 x 1.5 straight entry. Adaptors are available

Electrical Connections : Screwed terminals suitable for cable up to 2.5 mm?.

Environmental Protection : Switches have been tested to IP66 in accordance with BS EN 60529 : 1992.

Vibration and shock parameters : Switches were subjected to Lloyds Register Type Approval System Test Specification No.1 Clause 130 Vibration Test 2 and shock tested to BS EN 60068-2-27 : 1987

Temperature Limitations :
Ambient : -10 to +55°C
Storage : -20 to +60°C

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