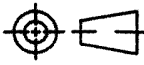


DRAWING NUMBER A154907	SHT 1 OF 3	THIRD ANGLE PROJECTION TO B.S. 308		FOR GENERAL TOLERANCES & FINISHES SEE PENNY & GILES STANDARD 55-301. FOR GEOMETRIC TOLERANCES SEE B.S. 308 Pt 3.	3	HOLE DATA	4			
USED ON		IF IN DOUBT ASK		APPROX GRID REF.		HOLE REF.	No. OF HOLES	DESCRIPTION	POS. TOL.	
EM-1				<u>SPECIFICATION</u>						
D or CAT. No.				INPUT						
				SUPPLY VOLTAGE(+V _s)		+22Vdc TO +26Vdc				
				SUPPLY CURRENT		<100mA (SEE NOTE 1)				
				POWER ON SETTLEMENT		<10% SPAN WITHIN 5 SECS				
				TRANSIENT SUPPRESSION; ENERGY(10/1000µs WAVE)		<0.25% SPAN WITHIN 3 MINS				
				CURRENT(5/20µs WAVE)		7.0JULRES				
				REVERSE POLARITY PROTECTED		1 X 100mA AS, 20mm x 65mm, IEC 127				
				FUSE PROTECTION		<0.05% OVER V _s RANGE				
				LINE REGULATION						
				OUTPUT						
				OUTPUT VOLTAGE(V _o)		0V TO +10V, 0V TO +8V, ±5V (SEE NOTES 2 & 4)				
				OUTPUT CURRENT(I _o)		4 TO 20mA, 0 TO 10mA, 0 TO 20mA (SEE NOTE 2)				
						5 TO 25mA, ±10mA				
				POLARITY		SLOPE REVERSIBLE (SEE NOTE 2)				
				ZERO ADJUSTMENT		100%				
				GAIN ADJUSTMENT		>20%				
				OUTPUT LOAD(R _L); VOLTAGE		>2KΩ				
				CURRENT		<3500				
				OUTPUT RIPPLE; MODES 1,2,3 & 5		<0.10% SPAN rms				
						<0.15% SPAN pk-pk @ 5KHz				
				MODE 4		<0.10% SPAN rms				
						<0.30% SPAN pk-pk @ 5KHz				
				FREQUENCY RESPONSE		-3dB, -90° @ 20KHz (SEE NOTE 5)				
						(2nd ORDER UP TO 1KHz, 4th ORDER > 1KHz)				
				COIL CONNECTION +COIL, -COIL		SHORT CIRCUIT PROTECTED				
				TEMPERATURE						
				TEMPERATURE RANGE; OPERATING		-40°C TO +85°C, EM-1; -30°C TO +80°C, EM-1B				
				STORAGE		-40°C TO +85°C, EM-1 & EM-1B				
				AVERAGE TEMPERATURE COEFFICIENT		±300ppm SPAN/°C (SEE NOTE 6)				
				ERROR DETECTION						
				ERROR OUTPUT TYPE		OPEN COLLECTOR + 120Ω				
				TYPICAL ERROR COMPARATOR OPERATING LEVELS		+10.6V < V _o < -1.0V MODE 1,3 & 5				
						+5.5V < V _o < -1.0V MODE 2				
						+5.4V < V _o < -5.4V MODE 4				
					OR	TRANSDUCER WINDING SHORT CIRCUIT				
					OR	TRANSDUCER WINDING OPEN CIRCUIT				
				ERROR COMPARATOR TIME CONSTANT		50ms NOM				
				TRANSISTOR PULL UP VOLTAGE(V _e)MAX		+50Vdc				
				COLLECTOR CURRENT(I _c)MAX		25mA				
				ERROR OUTPUT TRANSISTOR NORMALLY ON, TURNS OFF WHEN A FAULT OCCURS (SEE NOTE 3)						
				I _e WITH R _e FITTED, (PULL UP RESISTOR)						
						<u>OPERATING CONDITION</u>				
						NORMAL				
						FAULT				
				R _e PULL UP RESISTOR TYPICAL VALUES		V _e = +5V, R _e = 4.7KΩ				
						V _e = +24V, R _e = 24KΩ				
				NOTE 1 I _o @ +20mA AND V _o @ +10V						
				NOTE 2 SEE OUTPUT CONFIGURATION (SW1) TABLE						
				NOTE 3 FOR EM-1 POWER SUPPLY FAILURE DETECTION, +V _e SUPPLY TO BE INDEPENDENT TO +V _s SUPPLY						
				NOTE 4 IF CURRENT OUTPUT NOT REQUIRED DISABLE E TO I, SWITCH SW1/5 (DIS) OFF						
				NOTE 5 DESIGNED TO MEET BUT NOT TESTED						
				NOTE 6 AVERAGE TEMPERATURE COEFFICIENT=		A OUTPUT X 10 ⁶				
						20°C OUTPUT SPAN X OPERATING TEMPERATURE RANGE ppm/°C				
SUB-MASTER FROM:-										
APPROVED										
<i>K. Bailey</i>	MATERIAL:-	FINISH:-	TOLERANCES	SCALE:	ISSUE	2	2A			
CHECKED					DATE	20-3-04	11-7-04			
<i>K. Bailey</i>				DIMS:	CHANGE	6032/11	6032/12			
TRACED										
DRAWN	Penny+Giles POSITION SENSORS LIMITED				TITLE	EM-1 SETTING INSTRUCTION			SIZE	DRAWING NUMBER
M. BOOTE									A3	A154907 SHT 1 OF 3