

DRAWING NUMBER:
EM-10-V

USED ON

©
DESIGN
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Data Sheet

THIRD ANGLE
PROJECTION

SIZE
A3

D.O.REFS.

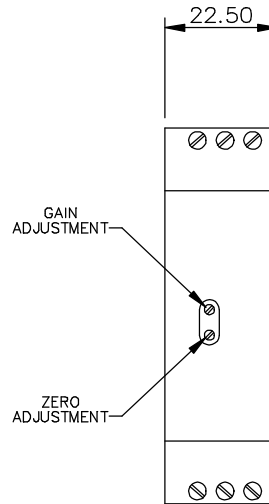
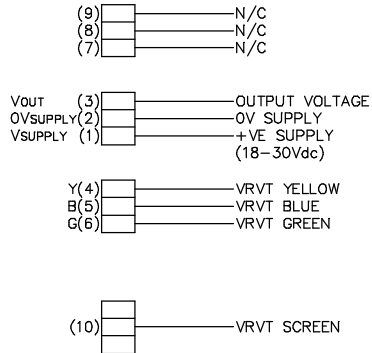
SUB-MASTER
FROM: -

APPROVED
I.HURST

CHECKED
I.HURST

DRAWN
P.W.

TERMINAL CONNECTIONS

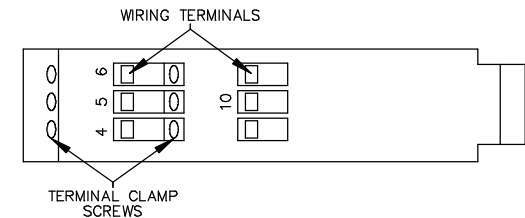
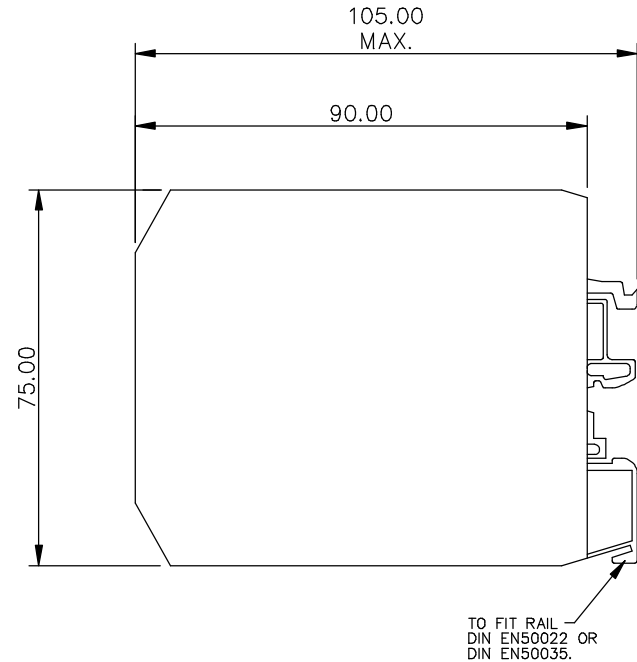
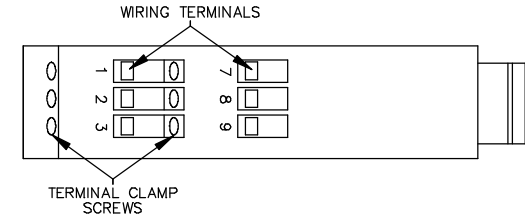


SPECIFICATION DATA

SUPPLY VOLTAGE	18-30Vdc (REGULATED)
SUPPLY CURRENT	<100mA MAX
LINE REGULATION	<0.25% SPAN/VOLT
POWER ON SETTLEMENT	<10% SPAN WITHIN 5 SECONDS <0.25% SPAN WITHIN 3 MINUTES
OUTPUT	0V TO 10V (VOLTAGE) FOR FULL VRVT ELECTRICAL SHAFT DISPLACEMENT (0V RETRACT, 10V EXTEND). SEE PENNY & GILES DRAWING AI56247 FOR 0V TO 5V, ±5V AND SLOPE REVERSAL OUTPUT SETTING INSTRUCTIONS.
OUTPUT LOAD (VOLTAGE OUTPUT)	5KΩ MINIMUM (RESISTIVE TO 0V LINE)
OUTPUT ADJUSTMENT	±10% SPAN, 100% ZERO OFFSET
OUTPUT RIPPLE	<5mV RMS
TEMPERATURE RANGE	OPERATIONAL 0°C TO +60°C OPERATIONAL STORAGE -20°C TO +70°C
TEMPERATURE COEFFICIENT (AVERAGE)	<300ppm SPAN/°C (SEE NOTE 1)
MOUNTING	TO FIT DIN EN50022 OR DIN EN50035 RAILS

NOTE

- AVERAGE TEMPERATURE COEFFICIENT = $\frac{\Delta \text{OUTPUT} \times 10^6}{20\% \text{ OUTPUT SPAN} \times 60\text{°C (OPERATING TEMP RANGE)}}$ ppm/°C
- FOR USE WITH VRVT MODELS 050, 080, 100 AND 190



POSITION SENSORS LIMITED,
Christchurch,
Dorset, U.K.

ISSUE	A	1	2	3	4
DATE	17/3/97	23/4/97	9/4/98	09.05.00	29/08/01
CHANGE	NEW	CH9766/1	CH9766/4	9766/5	CH9766/6
FINISH: -					

MATERIAL: -
-

TOLERANCES
± 0.25

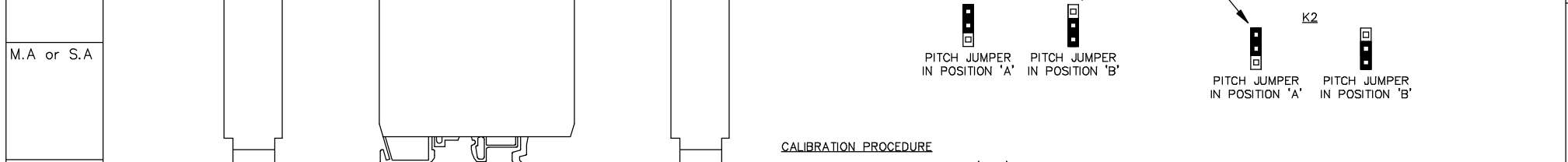
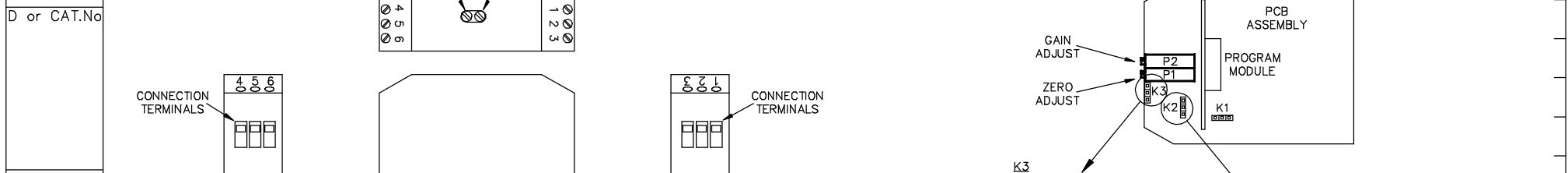
SCALE: 1:1
DIMS: mm

TITLE:
**EM-10 WITH
VOLTAGE OUTPUT**

DRAWING NUMBER:
EM-10-V

DRAWING NUMBER A156247	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	HOLE DATA				
				APPROX. GRID REF	HOLE REF.	No. OF HOLES	DESCRIPTION	POS. TOL

USED ON EM-10 IF IN DOUBT ASK



SPECIFICATION DATA

SUPPLY VOLTAGE _____ 18-30Vdc (REGULATED)
 SUPPLY CURRENT _____ <100mA MAX
 LINE REGULATION _____ <0.25% SPAN/VOLT
 POWER ON SETTLEMENT _____ <10% SPAN WITHIN 5 SECONDS
 OUTPUT _____ <0.25% SPAN WITHIN 3 MINUTES
 SEE TABLE FOR FULL VRVT ELECTRICAL SHAFT DISPLACEMENT.
 OUTPUT ADJUSTMENT _____ ±10% SPAN, 100% ZERO OFFSET
 OUTPUT RIPPLE _____ <5mV RMS
 OUTPUT LOAD _____ 5kΩ MINIMUM (RESISTIVE TO 0V LINE)

CALIBRATION PROCEDURE

1. BI-POLAR OUTPUT OPTIONS (±5V):-
 a) SET PITCH JUMPER POSITIONS ON K2 AND K3 TO SELECT DESIRED OUTPUT (SEE FIG.1 AND TABLE).
 b) MECHANICALLY POSITION VRVT SHAFT TO MID STROKE AND ADJUST ZERO TRIMPOT (P1) TO SET OUTPUT TO 0V.
 c) MECHANICALLY POSITION VRVT SHAFT TO EXTEND POSITION AND ADJUST GAIN TRIMPOT (P2) TO GIVE THE DESIRED FULL RANGE OUTPUT VOLTAGE.

2. UNI-POLAR OUTPUT OPTIONS (0 TO 10V, 0 TO 5V etc):-
 a) SET PITCH JUMPER POSITIONS ON K2 AND K3 TO SELECT DESIRED OUTPUT (SEE FIG.1 AND TABLE).
 b) MECHANICALLY POSITION VRVT SHAFT TO DESIRED 0V POSITION AND ADJUST ZERO TRIMPOT (P1) TO SET OUTPUT TO 0V.
 c) MECHANICALLY POSITION VRVT SHAFT TO OTHER END OF ELECTRICAL STROKE AND ADJUST GAIN TRIMPOT (P2) TO GIVE THE DESIRED OUTPUT VOLTAGE.

OUTPUT VOLTAGE OPTIONS		PITCH JUMPER POSITION	
SHAFT RETRACT	SHAFT EXTEND	K2	K3
0V	+10V	A	A
+10V	0V	B	A
0V	5V	A	B
5V	0V	B	B
-5V	+5V	A	A
+5V	-5V	B	A
0V	-5V	B	B
-5V	0V	A	B

SUPPLY VOLTAGE TO BE IN THE RANGE 24-30Vdc FOR THESE OUTPUT VOLTAGE OPTIONS.

CONNECTION SCHEMATIC

APPROVED	MATERIAL: -	FINISH: -	TOLERANCES	SCALE: NTS	ISSUE	1	2	2A											
					DATE	26/10/95	25/6/96	20/6/97											
					CHANGE	CH9596/1	CH9596/4	CH9596/7											

Penny+Giles
POSITION SENSORS LIMITED
TITLE: SETTING INSTRUCTIONS
SIZE: A3
DRAWING NUMBER: A156247