

MAGNET MISALIGNMENT

2mm TO 7mm
Z AXIS AIR GAP

2.0 X AXIS
MAX OFFSET

2.0 Y AXIS
MAX OFFSET

Fig 1

NRH280 Magnet Misalignment Vs Linearity

Linearity %

X Offset (mm)

X Variable Offset, Y Axis Fixed @ 0mm ,Z 2mm

X Variable Offset, Y Axis Fixed @ 0.25mm ,Z 2mm

X Variable Offset, Y Axis Fixed @ 0.5mm ,Z 2mm

X Variable Offset, Y Axis Fixed @ 0mm ,Z 7mm

X Variable Offset, Y Axis Fixed @ 1mm ,Z 7mm

X Variable Offset, Y Fixed @ 2mm ,Z 7mm

Fig 3

MAX OPERATING TEMPERATURE DERATING

Temperature (°C)

Supply Voltage (Volts)

Fig 4

PWM OUTPUT CHARACTERISTICS

5V

GND

t = pulse width
(Increases with shaft direction code)

D = duty cycle = t/T

T = periodic time = 1/f

ACTUAL MEASURED
OUTPUT ANGLE

$= 1.25 \left(\frac{1}{T} - 0.5 \right) \times$

SENSOR ELECTRICAL ANGLE
(FROM ORDERING CODE)

Fig 5

OUTPUT INCREASES
FOR ACW
UNIT WHEN
VIEWED AS SHOWN

MID POINT OF
ELECTRICAL ANGLE

OUTPUT INCREASES
FOR CW
UNIT WHEN
VIEWED AS SHOWN

BOLT TYPE

IDENT FACING TOWARDS
CABLE EXIT

PLUG TYPE

IDENT FACING TOWARDS
CABLE EXIT

Fig 2

Output law for 3 different angles

Output voltage (V)
[9-30V version]

Angle of rotation, θ (°)

Youtput/Vsupply (%)
[5V version]

SCALE 2:1 UNLESS STATED		IF CONTROL DIMENSIONS (Kc) ARE SPECIFIED THEY ARE TO BE SUBJECT TO 100% INSPECTION OR STATISTICAL PROCESS CONTROL.		D No -	MATERIAL MTG PLATE - 316 ST. STEEL BODY - POLYMER MAGNET HOLDER - 316 ST/STEEL		TOLERANCES: IN-LINE WITH PENNY & GILES STANDARDS 55-301 SURFACE TEXTURE VALUES IN MICROMETRES (µm) TO BS1134:PT2. ALL MACHINED SURFACES TO BE 1.6 ALL SCREW THREADS TO BS3643 PT.2: EXTERNAL CLASS: 6g INTERNAL CLASS: 6H		TITLE NON CONTACT ROTARY HALL SENSOR		PENNY + GILES		A3
THIRD ANGLE PROJECTION TO BS 8888		MASS (g)	VOL. (mm ³)	REF.	FINISH	ANGULAR ± 1° LINEAR 0, mm 0,0 mm 0,00mm 0,000mm (MACHINING) +/- 0,5 mm +/- 0,2 mm +/- 0,1mm +/- 0,01mm BREAK EDGE 0,05 - 0,15mm FILLET RADS 0,1 - 0,3mm UNLESS OTHERWISE STATED		PART NUMBER: NRH280DP					

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