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CONFIGURATION & ORDERING CODES

NRH27C-XXX-XX-XX-X-X-XXX-XX

Type	Output	Direction	Baud Rate	Node ID (Hexadecimal)	Frame Rate	Magnet	Cable	Connector
NRH27C	X	X	X	XX	X	X	XXX	XX
	J	3	1	01-F7	1	O	P2C	C0
		4	2		2	B	P2N	C1
		5	3		3	P		C2
		6	4		4	M		
		5						

OUTPUT

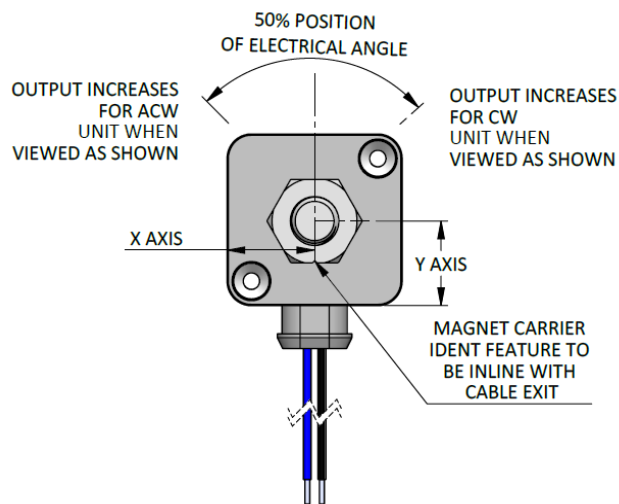
NRH27C-X-X-X-XX-X-X-XXX-XX

Code	Description
J	J1939 Protocol

DIRECTION

NRH27C- X-X-X-XX-X-X-XXX-XX

Code	Description
3	Both clockwise
4	Both anti-clockwise
5	Output 1 clockwise, Output 2 anti-clockwise
6	Output 1 anti-clockwise, Output 2 clockwise





BAUD RATE

NRH27C- X-X-X-XX-X-X-XXX-XX

Code	Description
1	50 kbit/s
2	125 kbit/s
3	250 kbit/s
4	500 kbit/s
5	1 Mbit/s

NODE ID (IN HEXADECIMAL)

NRH27C- X-X-X-XX-X-X-XXX-XX

Code	Description
01 – F7	Factory set between 01 and F7

FRAME RATE

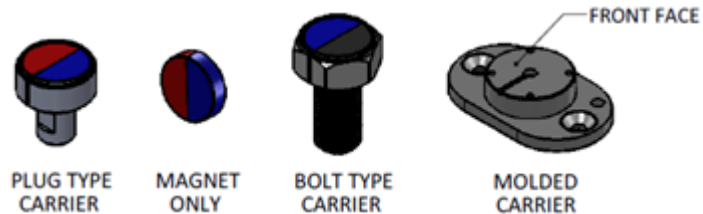
NRH27C- X-X-X- XX-X-X-XXX-XX

Code	Description
1	25 ms
2	50 ms
3	100 ms
4	10 ms

MAGNET

NRH27C- X-X-X- XX- X-X-XXX-XX

Code	Description
O	Molded carrier
B	Bolt type carrier
P	Plug type carrier
M	Magnet only



CABLE

NRH27C-XX-X-X-XX-X-X-XXX-XX

Code	Description
P2C	0.2m length with protective conduit tube (for C1 and C2 connector options)
P2N	0.2m length, no conduit tube (for no connector option, C0)





CONNECTOR

NRH27C-XX-X-X-XX-X-X-XXX-XX

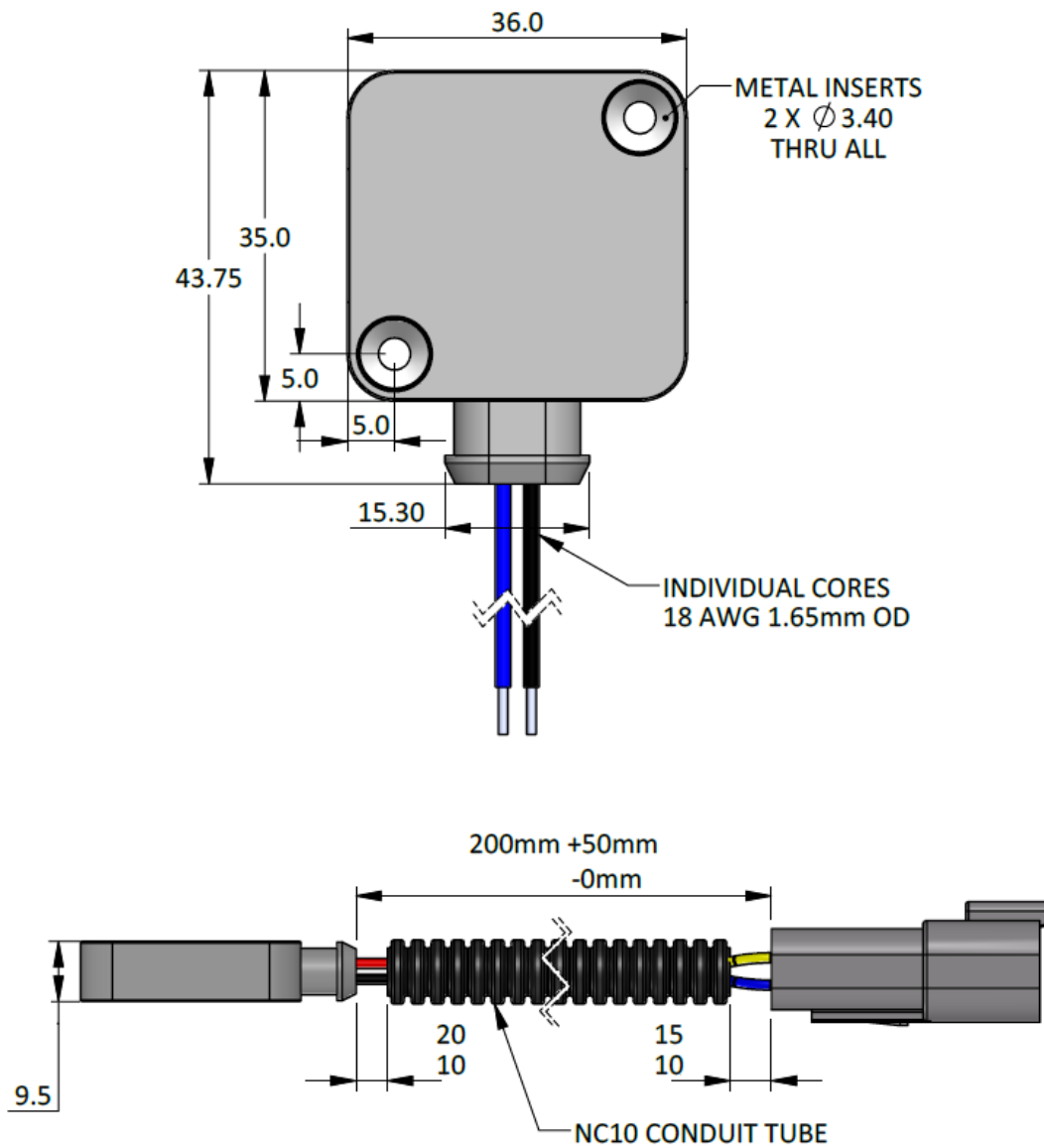
Code	Description
C0	No connector, 4-way flying leads
C1	Deutsch DT04
C2	AMP Superseal



INSTALLATION

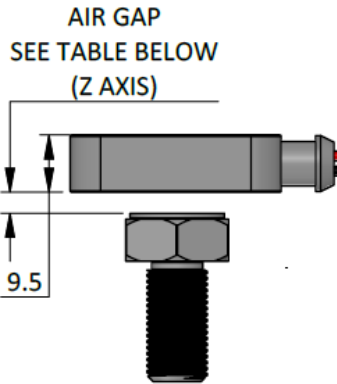
MECHANICAL

Sensor





Magnet

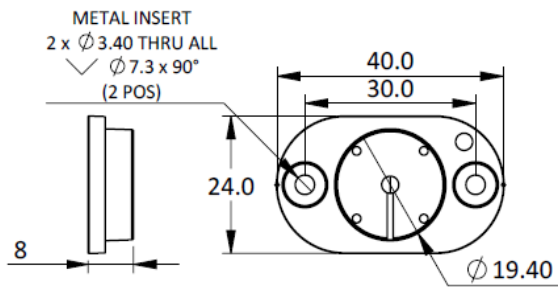


Magnet Type	Air Gap
BOLT & PLUG TYPE	2-7mm
MOLDED CARRIER	1.5-6.5mm from front face of carrier
MAGNET ONLY	3-8mm

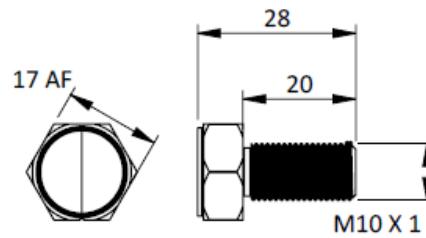
NOTE

All stated specifications are based on a nominal air gap of 3.5mm. Per the table above, other air gaps are possible but some specifications may vary. Please consult Curtiss-Wright for further details.
If the unit is operated when the magnet is outside the recommended air gap, the output will default to error message 0xFFFF

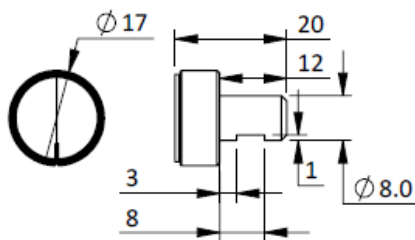
Molded Carrier



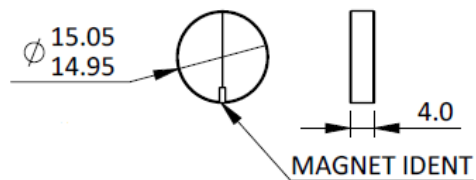
Bolt Type



Plug Type



Magnet Only



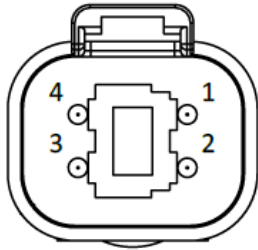


ELECTRICAL CONNECTIONS

Flying Leads (C0)

Color	Function
BLACK	GND (0V)
RED	Vsupply
BLUE	CANL
YELLOW	CANH

Deutsch DT04 (C1)

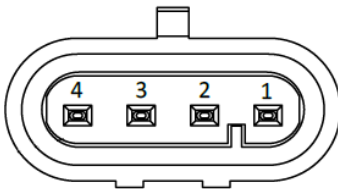


Deutsch DT04 4P-E004 with gold contact 0460-202-1631

Mating Part No: DT06-4S-**** (plug) & 0462-201-1631 (pins)

Pin	Function
1	GND (0V)
2	Vsupply
3	CANL
4	CANH

AMP Superseal (C2)



AMP 1.5 Superseal 282106-1

Mating Part No: 282088-X (plug) & 183025-1 (pins)

Pin	Function
1	GND (0V)
2	Vsupply
3	CANL
4	CANH

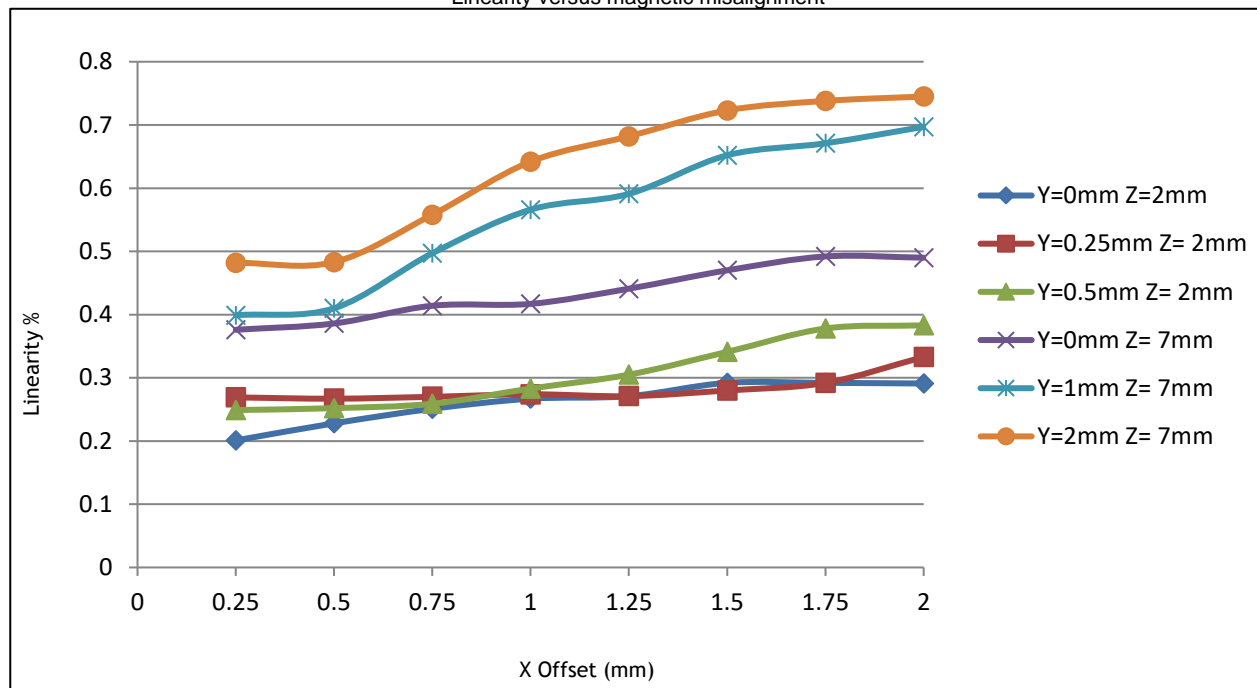


SPECIFICATIONS

ELECTRICAL

MEASUREMENT RANGE	360°
SUPPLY VOLTAGE	5Vdc \pm 0.5Vdc or 9-30Vdc unregulated – auto-selects
SUPPLY CURRENT	<60mA
SUPPLY REVERSE POLARITY PROTECTION	Yes
SHORT-CIRCUIT PROTECTION	Yes, all connections to all connections
OVER-VOLTAGE PROTECTION	Up to 40Vdc at ambient temperature
POWER-ON SETTLEMENT	<1s
RESOLUTION	14-bit (0.022° / lsb)
TEMPERATURE COEFFICIENT	< \pm 30ppm/°C
LINEARITY	< \pm 0.4%

Linearity versus magnetic misalignment



OUTPUTS

OUTPUT NOISE	\pm 1 bit
INPUT/OUTPUT DELAY	Max = selected frame rate

For additional data on the message structure refer to document NRH27C-J1939

**MECHANICAL**

MECHANICAL ANGLE	360° continuous
MAXIMUM OPERATING SPEED	3600°/s
WEIGHT	<100g
MOUNTING	2x Ø3.4mm holes with Ø7.3mm x 90° CSK
CABLE	18AWG 1.65mm OD

ENVIRONMENTAL

OPERATING TEMPERATURE RANGE	-40°C to 85°C (derate by 5°C for each 1Vdc increase above 26Vdc of Vsupply)
STORAGE TEMPERATURE RANGE	-55°C to 125°C
SEALING	Sensor body IP69K, IP68, IP67 AMP connector IP68 when fully mated Deutsch connector IP67 when fully mated
VIBRATION	BS EN 60068-2-64:1995 section 8.4 (31.4gn rms) 20-2000Hz random
SHOCK	3m drop onto concrete and 2500g
MTTFd	> 150 years
ELECTROMAGNETIC INTERFERENCE	Directive 2014/30/EU (EN 61000-4-3:1999, RF modified to 100V/m)
SALT SPRAY	EN 60068-2-52; 1996 test Kb severity 2 (48 hrs)
HUMIDITY	EN60068-2-30; 2005 severity Db (55°C, 93%RH)

IMPORTANT INFORMATION

Whilst Curtiss-Wright Industrial Division - Penny & Giles has designed this sensor to meet a range of applications it is the responsibility of the customer to ensure it meets their specific requirement.

Penny & Giles Controls Ltd makes no warranty or representation in respect of product fitness or suitability for any particular design application, environment, or otherwise, except as may subsequently be agreed in contract for the sale and purchase of products. Customers should therefore satisfy themselves of the actual performance requirements and subsequently the product's suitability for any particular design application and the environment in which the product is to be used.

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