



CONFIGURATION & ORDERING CODES

SRH30Y-XXX-XX-X-X-XX-XXX

Y = 1 for SRH301

Y = 2 for SRH302

Type	Angle	Output	Direction	Shaft	Cable	Connector
SRH30Y	XX	XX	X	X	X	XX
	20-360	A1	1	D	P2	NC0
		A5	2	S		NC1
		P1	3			NC2
		P2	4			CC0
		P3	5			CC1
						CC2

MEASUREMENT ANGLE

SRH30Y-XXX-XX-X-X-XX-XXX

Code	Description
XXX	20-360° in 1° increments

OUTPUT

SRH30Y-XXX-XX-X-X-XX-XXX

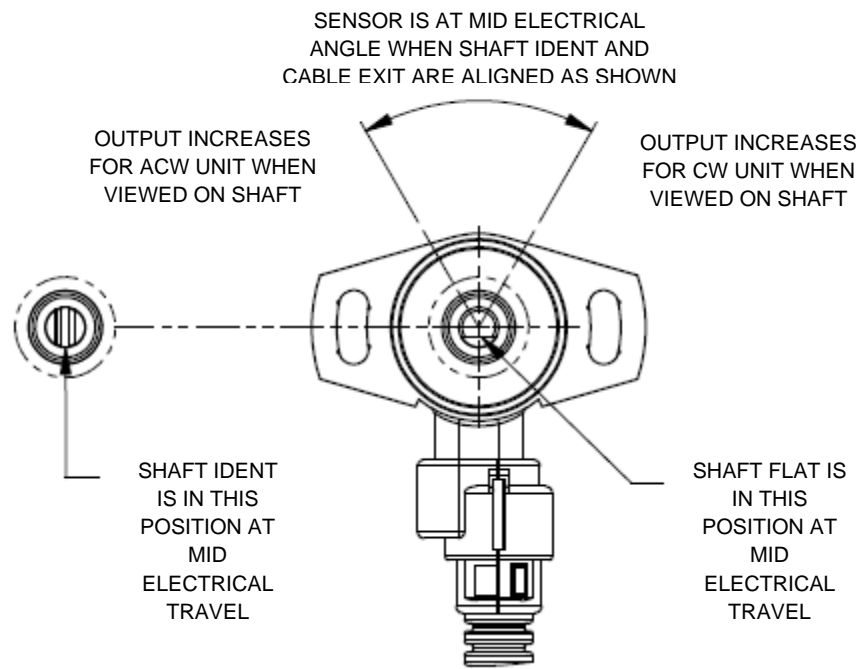
Code	Description
A1	Analog voltage: 10-90% of 5V supply or 0.5-4.5V of 9-30V supply
A5	Analog voltage: 4-96% of 5V supply or 0.2-4.8V of 9-30V supply
P1	PWM: 244Hz
P2	PWM: 500Hz
P3	PWM: 1kHz



DIRECTION

SRH30Y-XXX-XX-X-X-XX-XXX

Code	Description
1	SRH301: clockwise
2	SRH301: anti-clockwise
3	SRH302: both clockwise
4	SRH302: both anti-clockwise
5	SRH302: Output 1 clockwise, Output 2 anti-clockwise



SHAFT

SRH30Y-XXX-XX-X-X-XX-XXX

Code	Description
D	'D' shaft
S	Sprung shaft

CABLE

SRH30Y-XXX-XX-X-X-XX-XXX

Code	Description
P2	0.2m cable



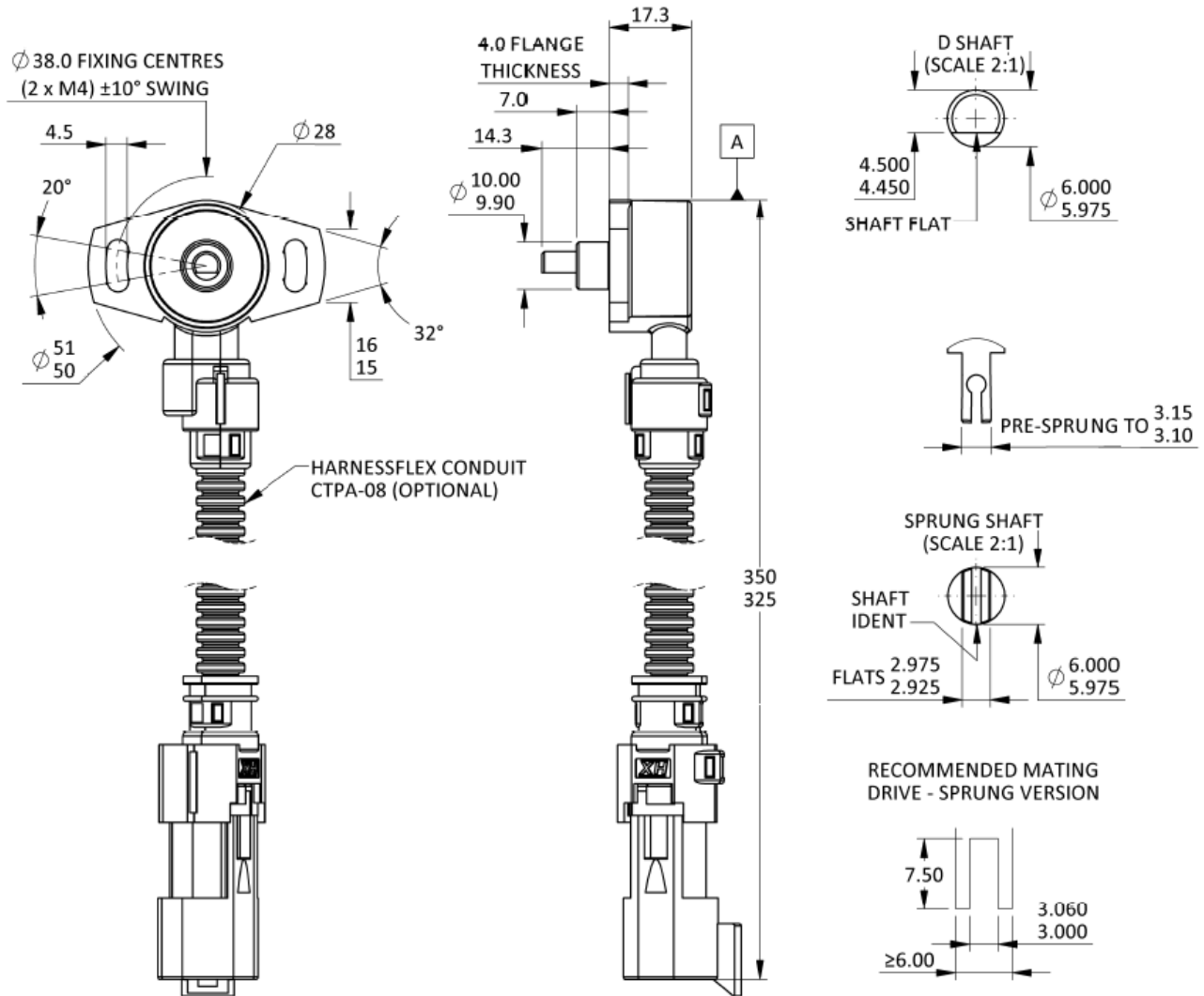
CONNECTOR

SRH30Y-XXX-XX-X-X-XX-XXX

Code	Description
NC0	No conduit, no connector (flying-leads)
NC1	No conduit, Deutsch DT04 connector
NC2	No conduit, AMP Superseal connector
CC0	Conduit fitted, no connector (flying-leads)
CC1	Conduit fitted, Deutsch DT04 connector
CC2	Conduit fitted, AMP Superseal connector

INSTALLATION

MECHANICAL

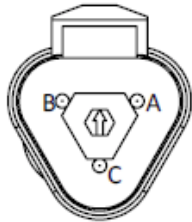


Deutsch connector shown
 AMP connector option cable length as per illustrated for Deutsch connector
 Flying-lead option cable length 250-300 from datum A

Dimensions in mm unless stated otherwise

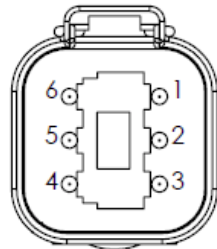
**ELECTRICAL CONNECTIONS****Flying-Leads (XC0)**

Color	Function	
RED	SRH301: Vsupply	SRH302: Vsupply 1
BLACK	SRH301: GND (0V)	SRH302: GND (0V) 1
YELLOW	SRH301: Output	SRH302: Output 1
BLUE		SRH302: Vsupply 2
GREEN		SRH302: GND (0V) 2
WHITE		SRH302: Output 2

Deutsch DT04 (XC1)**SRH301**

Deutsch DT04 3P-CE03 with gold contact 0460-202-1631

Mating Part No: DT06-3S-**** (plug) & 0462-201-1631 (pins)

SRH302

Deutsch DT04 6P-CE03 with gold contact 0460-202-1631

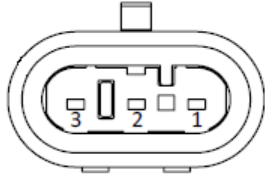
Mating Part No: DT06-6S-**** (plug) & 0462-201-1631 (pins)

Pin	Function	
1/A	SRH301: GND (0V)	SRH302: GND (0V) 1
2/B	SRH301: Output	SRH302: Vsupply 1
3/C	SRH301: Vsupply	SRH302: Output 1
4		SRH302: GND (0V) 2
5		SRH302: Vsupply 2
6		SRH302: Output 2



AMP Superseal (XC2)

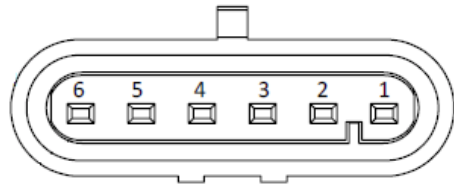
SRH301



AMP 1.5 Superseal 282105-1

Mating Part No: 282087-X (plug) & 183025-1 (pins)

SRH302



AMP 1.5 Superseal 282108-1

Mating Part No: 282090-X (plug) & 183025-1 (pins)

Pin	Function	
1	SRH301: GND (0V)	SRH302: GND (0V) 1
2	SRH301: Vsupply	SRH302: Vsupply 1
3	SRH301: Output	SRH302: Output 1
4		SRH302: GND (0V) 2
5		SRH302: Vsupply 2
6		SRH302: Output 2



SPECIFICATIONS

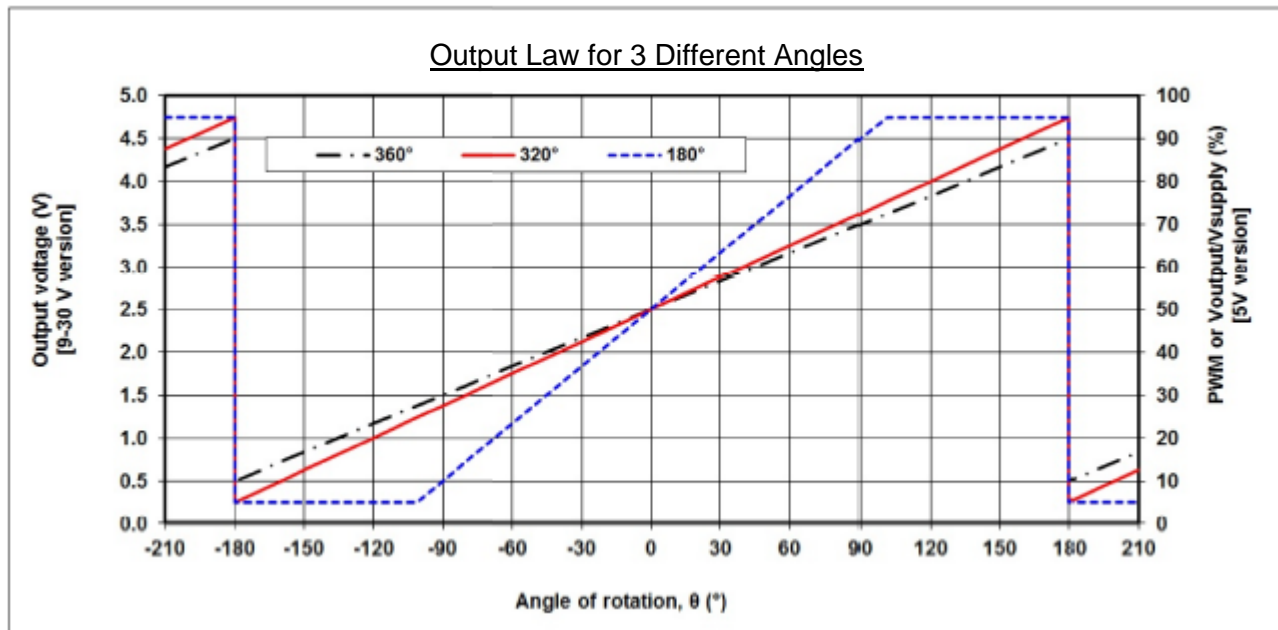
ELECTRICAL

MEASUREMENT RANGE	20-360° in 1° increments
SUPPLY VOLTAGE	5Vdc \pm 0.5Vdc and 9-30Vdc unregulated – auto-selects
SUPPLY CURRENT	SRH301: <17.5mA SRH302: <35mA
SUPPLY REVERSE POLARITY PROTECTION	Yes
SHORT-CIRCUIT PROTECTION TO GND	Yes
SHORT-CIRCUIT PROTECTION TO SUPPLY	when used with 5V supply only
OVER-VOLTAGE PROTECTION	Up to 40Vdc
POWER-ON SETTLEMENT	<1s
RESOLUTION	12-bit (0.025% of measurement range)
LINEARITY (ABSOLUTE)	\pm 0.4%
TEMPERATURE COEFFICIENT	<30ppm/°C in 5Vdc mode, <110ppm/°C in 9-30Vdc mode

VOLTAGE OUTPUTS

OUTPUT RANGE A1 (5Vdc SUPPLY)	10-90% \pm 1% of Vsupply over measurement range
OUTPUT RANGE A1 (9-30Vdc SUPPLY)	0.5-4.5V \pm 3% absolute over measurement range
MONOTONIC RANGE	5%/0.25V to 95%/4.75V nominal
OUTPUT RANGE A5 (5Vdc SUPPLY)	4-96% \pm 1% of Vsupply over measurement range
OUTPUT RANGE A5 (9-30Vdc SUPPLY)	0.2-4.8V \pm 3% absolute over measurement range
MONOTONIC RANGE	2%/0.1V to 98%/4.9V nominal

Voltage Output Law Examples

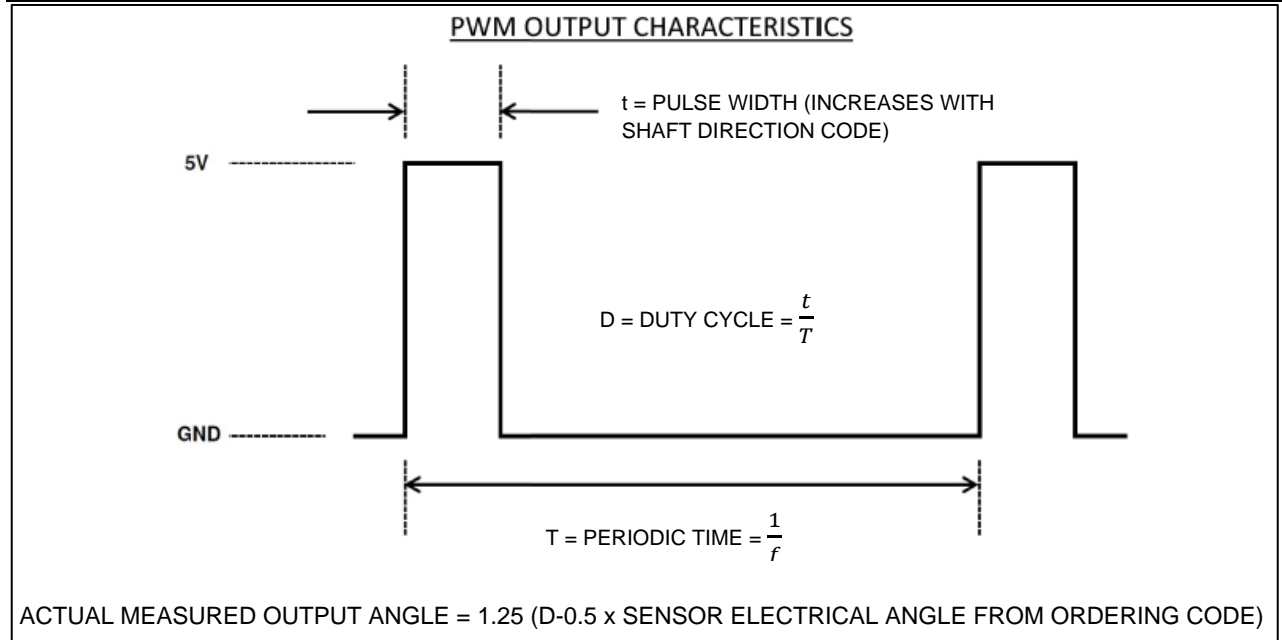


LOAD RESISTANCE	10k Ω min. (resistive to GND)
OUTPUT NOISE	<1mV rms
INPUT/OUTPUT DELAY	<2ms



PWM OUTPUTS

PWM FREQUENCY	244Hz, 500Hz or 1kHz $\pm 20\%$
PWM LEVELS (5Vdc SUPPLY)	0V and $V_{supply} \pm 1\%$
PWM LEVELS (9-30Vdc SUPPLY)	0V and 5V $\pm 3\%$ nominal
DUTY CYCLE	10-90% over measurement range
MONOTONIC RANGE	5-95% nominal
LOAD RESISTANCE	10k Ω min. (resistive to GND)
RISE/FALL TIME	<15 μ s typical



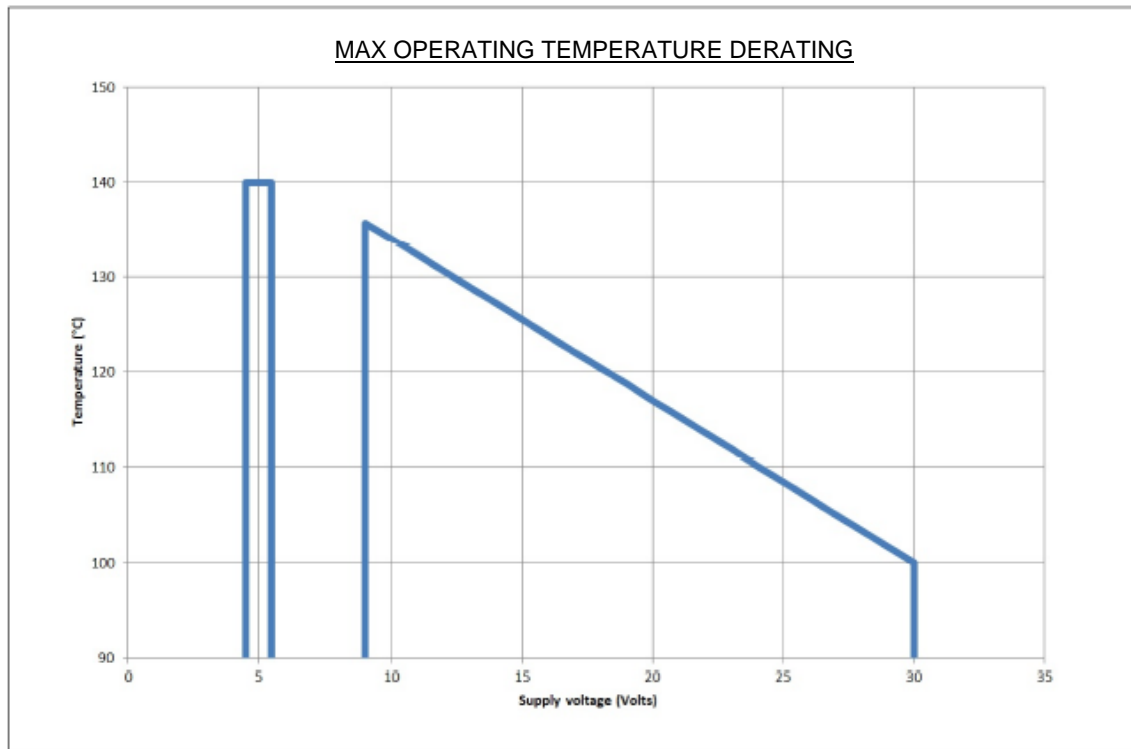
MECHANICAL

MECHANICAL ANGLE	360° continuous
MAXIMUM OPERATING SPEED	3600°/s
TORQUE	120 gm cm max
WEIGHT	<70g
MOUNTING	2x holes to suit M4 screws tightened to 2.9Nm
CABLE	18AWG 1.65mm OD



ENVIRONMENTAL

OPERATING TEMPERATURE RANGE	
5V SUPPLY	-40°C to 140°C (-40°C to 120°C if conduit fitted)
9-30V SUPPLY	-40°C to 135.7°C at 9V, derate by 1.7°C for each 1V increase
STORAGE TEMPERATURE RANGE	-40°C to 140°C (-40°C to 120°C if conduit fitted)
SEALING	Sensor body IP69K with conduit, IP68 without conduit Manufacturer ratings apply for connectors
VIBRATION	EN 60068-2-64:1995 section 8.4 (31.4gn rms) 20-2000Hz random
SHOCK	Survival to 2500g all axes
LIFE	20 million operations
MTTFd	> 300 years
ELECTROMAGNETIC INTERFERENCE	EN 61000-4-3 to 100V/m 80-1000MHz & 1.4-2.7GHz



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.

Continual research and development may require change to products and specification without prior notification.

All trademarks acknowledged.