



J130 Shafted Rotary Position Sensor

- Multiple shaft and connector options available
- Shaft and captive bearing package resistant to shaft push out forces, withstands extreme mechanical vibration
- Extremely compact, J1939 capable
- LED indicators for power and output feedback
- 100% moisture resistant electronic package (IP67)
- Outputs: Quadrature, Step and Direction, SSI, PWM, Analog, Modicon MODBUS, & J1939 Can Bus

ELECTRICAL

Outputs	A-PPR-SEPP : Incremental 13 bit Quadrature w/ Single Ended Output
	A-PPR-DIPP : Incremental 13 bit Quadrature w/ Differential Output
	A-1939 : J1939 13 bit @ 1000 positions
	A-MOD1 : Modicon MODBUS @ 8192 positions
	B-PWM : PWM absolute position
	A-SSI1 : SSI absolute position @ 8192 positions
	V1 : Voltage Out / 5 VDC IN, 0-5 VDC OUT
	V2 : Voltage Out / 6-36 VDC IN, 0-5 VDC OUT
	I1 : Current Out / 0-24 VDC IN, 4-20 mA OUT
	Input Power
Electrical Protection	Over-voltage, reverse-voltage, output short-circuit protected
LED Indicators	Power and output channels
Connections	Terminal Plug, M8, M12, M12 Pigtail, Flying Lead Cable, Shielded Flying Lead, Deutsch - 4 or 6 pin
Resolution	0.3°
Repeatability	0.30%
Nonlinearity	< 1%

MECHANICAL

Housing Diameter	30mm
Housing Material	Aluminum
Housing Height	1.49" body; 2.15" w/ M12
Mounting	Mounting holes or servo groove
Weight	4 oz
Shaft Form Factor	6mm w/ flat, Extended 6mm w/ flat, 1/4" (0.250") w/ flat, 10mm round, 3/8" slotted, Extended 3/8" slotted
Shaft Material	Non-magnetic stainless steel
Bearing Material	Dual chrome ball-bearing
Shaft Speed	3000 RPM max

ENVIRONMENTAL

Operating Temperature	-30° to +80° C
Storage Temperature	-40° to +90° C
Humidity	100%
Shock	400g/6ms (MIL STD 202)
Vibration	5 to 3000 Hz, 20g (MIL STD 202)
Protection Class	IP67 (connection dependent)

Code 1: Housing Style	Code 2: MagElec		Code 3: Connection		Code 4: Modifiers		
J130 J130 = 30mm shafted made out of red aluminum, Connector orientation BACK EXIT only. <i>*More outputs available, contact Joral if desired output not shown</i>	A-____-SEPP	13 bit single ended quadrature	TRM	Pluggable terminal block	40	1/4" (0.250") w/ flat	
			INS	Wire insertion terminal	41	10mm round	
	A-____-DIPP	13 bit differential quadrature	M8	M8 male	42	3/8" slotted	
			M12	M12 male	43	Extended 3/8" slotted	
			M12P	M12 male on 18' pigtail	44	Extended 6mm w/ flat	
	X - 1939	13 bit J1939 @ 1000 positions	CXX	Flying lead cable (enter XX as inches)	45	6mm w/ flat	
					51	Red aluminum	
	B-PWM	Absolute Position PWM	SCXX	Shielded Cable (enter XX as inches)	53	Black aluminum	
					90	13 bit @8192 counts per rotation	
					CSP	Cable with custom end	
DE4					DT04 - 4 pin male Deutsch		
DE6					DT06 - 6 pin male Deutsch		
V1	5 VDC IN, 0-5 VDC OUT						
V2	6-36 VDC IN, 0-5 VDC OUT						
I1	0-24 VDC IN, 4-20 mA OUT						

SPECIAL PART NUMBER INFORMATION

Code 1: Housing Style

- J130 - 30mm, Red aluminum / BACK EXIT connections only

Code 2: MagElec

(A-____-SEPP) or
(A-____-DIPP)

- Enter quadrature PPR in place of ____
- A = 13 bit PPR
- Available 13 PPR: 0008,0010,0016,0020,0025,0032,0040,0050,0064,0080,0100,0125,0128,0200,0250,0256,0400,0500,0512,1024,2048

A-1939

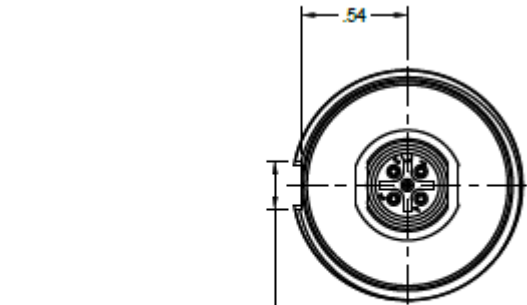
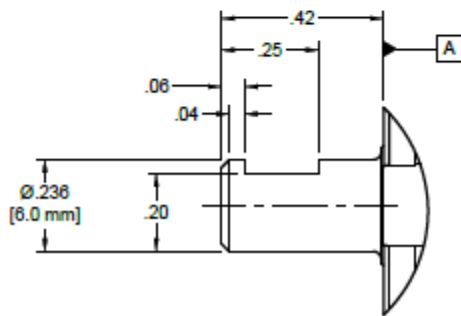
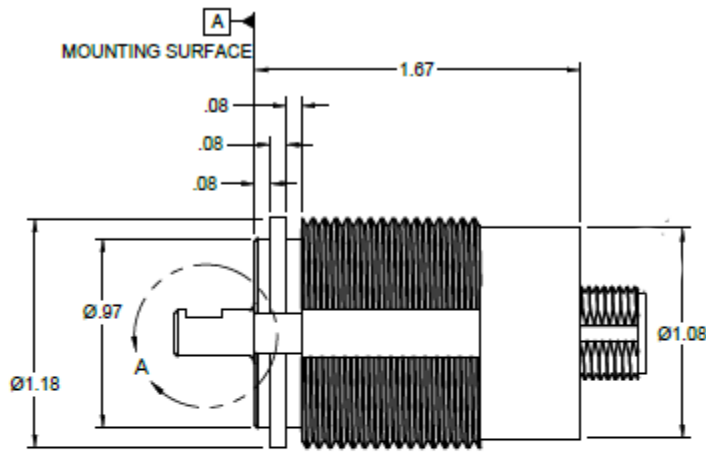
- Standard J1939 output is 1000 positions
- A = 13 bit
- MODIFIER 90** - for 8192 positions (max resolution) add code 90 to end of J130 P/N

V1, V2, I1 (Analog MagElec P/N Guide)

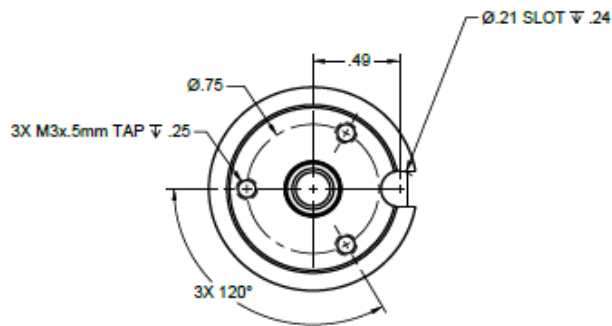
- First select MagElec code (**V1, V2, or I1**) then Angle Range (**A1-A2**), Voltage Range (**V1-V2**) and Signal Direction (Clockwise [**CW**] or Counterclockwise [**CCW**])
- Formula Example:**
(MagElec)-(A1-A2)-(V1-V2)-(CW or CCW)
- Exact Part Number Examples:**
J130-V1-0-360-.5-4.5-CW-C72
J130-V2-180-270-0-5-CCW-DE4
J130-I1-0-180-4-20-CW-M12

Code 3: Connections

- All Outputs, All Connections** - Connector exit back exit only (sensor epoxy side) for housing style J130
- J1939 Output** Addressing via varying value resistor in connection requires at least five conductors (M12, DE6, and Cable connections addressing compatible)
- All Outputs - DE4 and DE6** Deutsch connectors add \$20 to J130 list

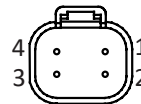


.25 SLOT ∇ THRU THREADS



GENERAL PIN OUTS

DT04-4P MALE FACE VIEW



DT04-4P J1939 OUTPUT

- 1 = YEL = CAN HIGH
- 2 = GRN = CAN LOW
- 3 = RED = +VDC (VIN)
- 4 = BLK = COMMON/GROUND

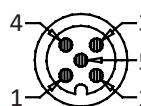
DT04-6P MALE FACE VIEW



DT04-6P J1939 OUTPUT

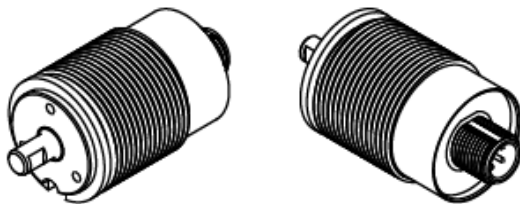
- 1 = YEL = CAN HIGH
- 2 = GRN = CAN LOW
- 3 = RED = +VDC (VIN)
- 4 = BLK = ADDRESS GROUND
- 5 = WHT = ADDRESS PROG. RESISTOR
- 6 = BLK = COMMON/GROUND

M12-5P MALE FACE VIEW



M12-5P AND 5 CONDUCTOR CABLE J1939 OUTPUT

- 1 = BRN = +VDC (VIN)
- 2 = WHT = CAN HIGH
- 3 = BLUE = COMMON/GROUND
- 4 = BLK = CAN LOW
- 5 = GRY = OPTIONAL ADDRESS PROGRAMMING RESISTOR



Dimensions informative only
For most recent dimensions please consult factory