HS20-P512AJ Series 20 Programmable Hollow Shaft Encoder

DESCRIPTION

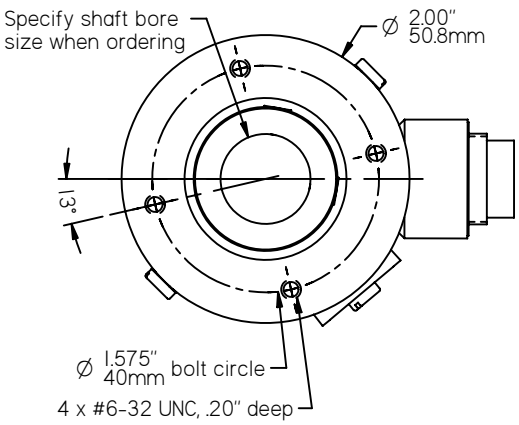
The HS20-P hollow shaft encoder fits onto an existing shaft and converts shaft rotation into square wave output pulses to provide an accurate and reliable means of digitizing position, rate, or length of travel. The number of pulses per each revolution of the shaft is determined by setting configuration switches. Flexible mounting brackets are available to secure the encoder without rigidly mounting it to the machine frame.

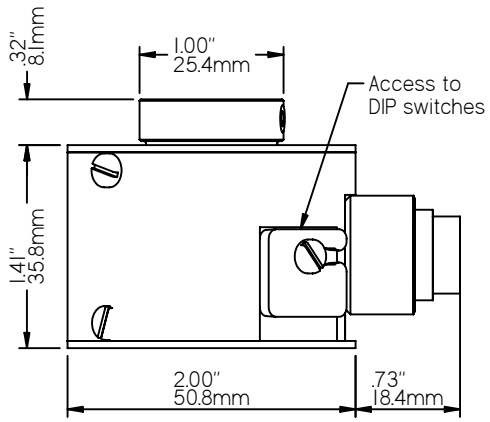
FEATURES

- **Up to 5/8" or 16mm shaft bore diameter**
- **Selectable Pulses/Revolution (8, 16, 24, to 512ppr)**
- **ESD / Short Circuit / Reverse Voltage Protected**
- **Exclusive "Anti-Jitter" Circuit for Conveyor Applications**

DIMENSIONS

(shown with optional connector, 5/8" shaft bore)



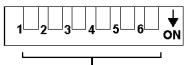


SPECIFICATIONS

Mechanical

Shaft Bore: Any up to 5/8", 16mm diameter
Shaft Loading:
— Radial: 30 lbs. / 13.6 kg
— Axial: 20 lbs. / 9.1 kg
A flexible mounting bracket is recommended.
Bearing Life: 44 x 1,000,000/rpm = hours
Materials:
— Case: Aluminum, anodized
— Shaft: 303 Stainless steel
— Switch access door: plastic
Weight: 6.5 - 8.5 oz. (185 - 240 grams)

Configuration Switches



Switch definitions:
□ Up (off)
■ Down (on)

Pulses per Revolution Selection

	1 2 3 4 5 6		1 2 3 4 5 6		1 2 3 4 5 6
8	□□□□□□	176	□■□■■□	344	■□■■□■
16	□□□□□■	184	□■□■■■	352	■□■■□■
24	□□□□■□	192	□■□■■■	360	■□■■□□
32	□□□□■■	200	□■■□□□	368	■□■■□■
40	□□□■□□	208	□■■□□■	376	■□■■■□
48	□□□■□■	216	□■■□■□	384	■□■■■■
56	□□□■■□	224	□■■□■■	392	■■□□□□
64	□□□■■■	232	□■■■□□	400	■■□□□■
72	□□■□□□	240	□■■■□■	408	■■□□■□
80	□□■□□■	248	□■■■■□	416	■■□□■■
88	□□■□■□	256	□■■■■■	424	■■□■□□
96	□□■□■■	264	■□□□□□	432	■■□■□■
104	□□■■□□	272	■□□□□■	440	■■□■■□
112	□□■■□■	280	■□□□■□	448	■■□■■■
120	□□■■■□	288	■□□□■■	456	■■■□□□
128	□□■■■■	296	■□□■□□	464	■■■□□■
136	□■□□□□	304	■□□■□■	472	■■■□■□
144	□■□□□■	312	■□□■■□	480	■■■□■■
152	□■□□■□	320	■□□■■■	488	■■■■□□
160	□■□□■■	328	■□■□□□	496	■■■■□■
168	□■□■□□	336	■□■□□■	504	■■■■■□
				512	■■■■■■

Electrical

Supply Voltages (+vdc): (specify when ordering)
5 ± 5% vdc or 8 to 30 vdc
Supply Current: 50 ma max (no load)
100 ma max (line driver)
Output Circuit: (specify when ordering)
Output voltage level is approximately the same as the input voltage level.
Single Ended:
— 7273 open collector (30 VDC max, 50 mA max)
— 7272 Push-Pull (50 mA max source or sink)
Differential Line Driver:
— 7272 differential line driver (also with optional 5vdc output level)
Operating Temperature: 0° to 70° C
Maximum Operating Speed: 1,500 rpm

Outputs

Pulses per Revolution: Selectable by setting switches 1 to 6 (see configuration switches). Output is "low" when initially powered.
Anti-Jitter feature: details on our website

Electrical Connections

Single Ended Outputs:

Optional 6-Pin	Optional M12 4-pin	Function	Wire Color
1	3	Common	Black
2	1	+vdc	Red
4	4	Output A	White
3, 5, 6	2	not used	-

6-pin connector is Amphenol T3402000 or equivalent
M12 4-pin is Turck FS4.4/18.25 or equivalent

Differential Line Driver Outputs:

Optional 8-Pin*	Function	Wire Color
1	Output +A	White
4	+vdc	Red
5	Common	Black
6	Output -A	Blue or Green
2, 3, 7, 8	not used	-

* connector is Amphenol T3506000 or equivalent

MODEL NUMBER

HS20		—	P512AJ	/					
Model Number	**Shaft Bore:** **B** = 3/8", **.5** = 1/2", **.625** = 5/8", **M10** = 10mm, **M12** = 12mm, **M16** = 16mm		**Program Name** Call or see our website for information about other available programs for this encoder model.		**Supply Voltage:** **5**=5vdc, **8-30**=8-30vdc	**Output Circuit:** leave blank for 7272 Push/Pull, **C**=7273 open collector, **D**=7272 line driver, **DL**=7272 line driver with 5vdc output level	**Cable/Connector:** leave blank for attached 10' (3meter) cable, **S**=6 or 8 pin connector, **S3**=M12 4-pin connector	**Modification Number:** optional modification or special feature ID. Call or see our website.	**Accessories:** leave blank for no accessories. Call or see our website for more information.

Example: **HS20.5-P512AJ/8-30** - 1/2" shaft bore, P512AJ program, 8-30vdc, push/pull output, attached 10' cable

MATERIAL HANDLING AND INDUSTRIAL EXPERIENCE SINCE 1974

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