

Series 20 Programmable Hollow Shaft Encoder

DESCRIPTION

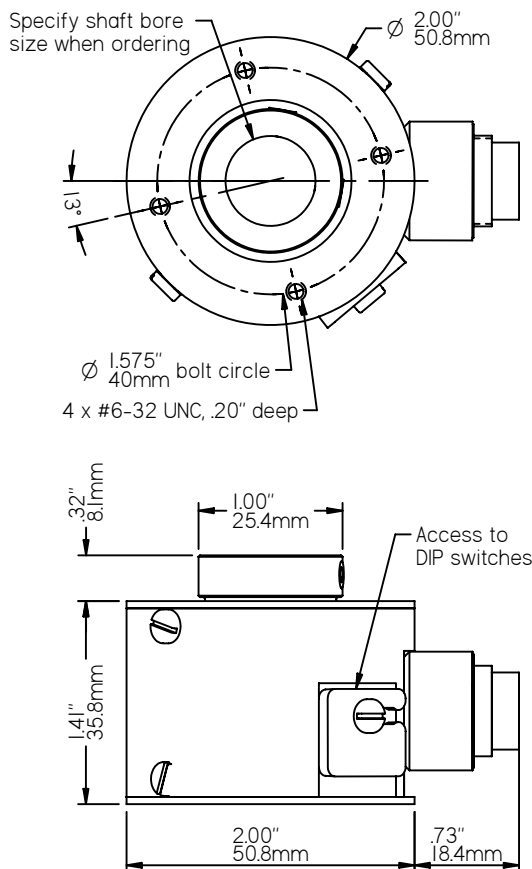
The HS20-P hollow shaft encoder fits onto an existing shaft and converts shaft rotation into square wave output pulses to provide an accurate and reliable means of digitizing position, rate, or length of travel. The number of pulses per each revolution of the shaft is determined by setting configuration 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 (1ppr to 64ppr)
- ESD / Short Circuit / Reverse Voltage Protected
- Exclusive "Anti-Jitter" Circuit for Conveyor Applications

DIMENSIONS

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



PO Box 25135 813-886-4000
Tampa FL 33622-5135, USA 800-237-0946
ttco.com • photocraftencoders.com

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.

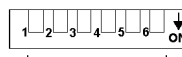
Bearing Life: $44 \times 1,000,000/\text{rpm} = \text{hours}$

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						
1	□	□	□	□	□	22	□	□	□	□	□	43	□	□	□	□	□						
2	□	□	□	□	■	23	□	□	□	■	■	44	□	□	□	■	■						
3	□	□	□	■	■	24	□	□	■	■	■	45	□	□	■	■	■						
4	□	□	□	■	■	25	□	■	■	■	■	46	□	□	■	■	■						
5	□	□	■	■	■	26	□	■	■	■	■	47	□	■	■	■	■						
6	□	□	■	■	■	27	□	■	■	■	■	48	□	■	■	■	■						
7	□	□	■	■	■	28	□	■	■	■	■	49	■	■	■	■	■						
8	□	□	■	■	■	29	□	■	■	■	■	50	■	■	■	■	■						
9	□	□	■	■	■	30	□	■	■	■	■	51	■	■	■	■	■						
10	□	□	■	■	■	31	□	■	■	■	■	52	■	■	■	■	■						
11	□	□	■	■	■	32	□	■	■	■	■	53	■	■	■	■	■						
12	□	□	■	■	■	33	□	■	■	■	■	54	■	■	■	■	■						
13	□	□	■	■	■	34	□	■	■	■	■	55	■	■	■	■	■						
14	□	□	■	■	■	35	□	■	■	■	■	56	■	■	■	■	■						
15	□	□	■	■	■	36	□	■	■	■	■	57	■	■	■	■	■						
16	□	□	■	■	■	37	□	■	■	■	■	58	■	■	■	■	■						
17	□	□	■	■	■	38	□	■	■	■	■	59	■	■	■	■	■						
18	□	□	■	■	■	39	□	■	■	■	■	60	■	■	■	■	■						
19	□	□	■	■	■	40	□	■	■	■	■	61	■	■	■	■	■						
20	□	□	■	■	■	41	□	■	■	■	■	62	■	■	■	■	■						
21	□	□	■	■	■	42	□	■	■	■	■	63	■	■	■	■	■						
												64	■	■	■	■	■						

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)

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
(output level same as supply voltage)
- RS422 differential line driver
(with regulated 5vdc output level)

Operating Temperature: 0° to 70° C

Maximum Operating Speed: 2,500 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	Optional M12 4-pin	Function	Wire Color
1	4	Output +A	White
4	1	+vdc	Red
5	3	Common	Black
6	2	Output -A	Green
2, 3, 7, 8		not used	-

8-pin connector is Amphenol T3506000 or equivalent

MODEL NUMBER

Model Number	HS20
Shaft Bore: B = 3/8", .5 = 1/2", .625 = 5/8", M10 = 10mm, M12 = 12mm, M16 = 16mm	
Program Name	P64AJ
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, DH = 7272 line driver, DL = RS422 line driver	
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-P64AJ/8-30** - 1/2" shaft bore, P64AJ program, 8-30vdc, push/pull output,
attached 10' cable