



The H20 is an extremely rugged encoder designed to economically fill the resolution range up to 4096 cycles per turn. This compact unit features a shock resistant disc, heavy duty bearings, and EMI shielding. The H20 conforms to NEMA 4 and 13 requirements. The H20 is also available in a hub shaft style with a flexmount (inset) for easy mounting directly to small motors. Typical applications of the H20 include machine control, process control, agricultural machinery, textile equipment, robotics, food processing, and metering.

Special Models of the H20 Incremental Encoder are available with one or more of the following certifications. Consult factory for details.

EN 55011
and EN 61000-6-2

U.S. Standards Class I, Group A,B,C & D;
Class II Group E,F & G

UL 12.0035X
UL 12.0082X

Canadian Standards
Class I, Zone 0, Group IIC

CENELEC
II 1 G Ex ia IIB/IIC T4
II 3 G Ex nA IIB T3 Gc
II 3 G Ex nA IIB T4 Gc

Class I, Div 2, Group A,B,C & D;
Class II, Div 2, Group F & G

Mechanical Specifications

Shaft Diameter: 1/4" thru 3/8" and metric versions. Hollow shaft, hub shaft or thru-shaft versions available.

Flat On Shaft: 0.75 x 0.03 deep

Shaft Loading: up to 40 lbs. axial and 40 lbs. radial

Shaft Runout: .001 T.I.R. maximum

Starting Torque at 25°C: 1.0 in-oz maximum without shaft seal; 2.5 in-oz maximum with shaft seal; 4.0 in-oz thru-shaft

Bearings: 52100 bearing steel

Shaft material: 303 stainless steel

Bearing Housing: Die cast aluminum with iridite finish; stainless steel (special feature)

Cover: Die cast aluminum with protective finish (For MS or CS terminations), otherwise drawn aluminum with protective finish; stainless steel (special feature)

Bearing Life: 1.5 X 10⁹ revs at rated load (10,000 hrs at 2500 RPM)

Maximum RPM: 8,000
(see Frequency Response)

Moment of Inertia: 2.0 x 10⁻⁴ oz-in-sec²

Weight: 9 oz. typical

Electrical Specifications

Code: Incremental

Output Format: 2 channels in quadrature, 1/2 cycle index gated with negative B channel as standard. Ungated index when 3904 is specified as the output device

Cycles per Shaft Turn: 1 to 4096 (see table A) For resolutions above 1024 contact BEI for interpolation options

Supply Voltage: 5 to 28 VDC available

Current Requirements: 100 mA typical + output load, 250 mA (max)

Voltage/Output: (see note 5)

28V/V: Line Driver, 5-28 VDC in, V_{out} = V_{in}

28V/5: Line Driver, 5-28 VDC in, V_{out} = 5 VDC

28V/OC: Open Collector, 5-28 VDC in, OC_{out}

Protection Level: reverse, overvoltage and output short circuit (see note 5)

Frequency Response: 100 KHz (up to 1024 cpt; 400 KHz with interpolation option (see note 7))

Output Terminations:

see Table 1

Note: Consult factory for other electrical options

Environmental Specifications

Enclosure Rating: NEMA 4 & 13 (IP66) when ordered with shaft seal (on units with an MS connector) and a cable gland (on units with cable termination)

Temperature: Operating, 0° to 70°C; extended temperature testing available (see note 8); Storage, -25° to 90°C unless extended temperature option called out

Shock: 50 g's for 11 msec duration

Vibration: 5 to 2000 Hz @ 20 g's

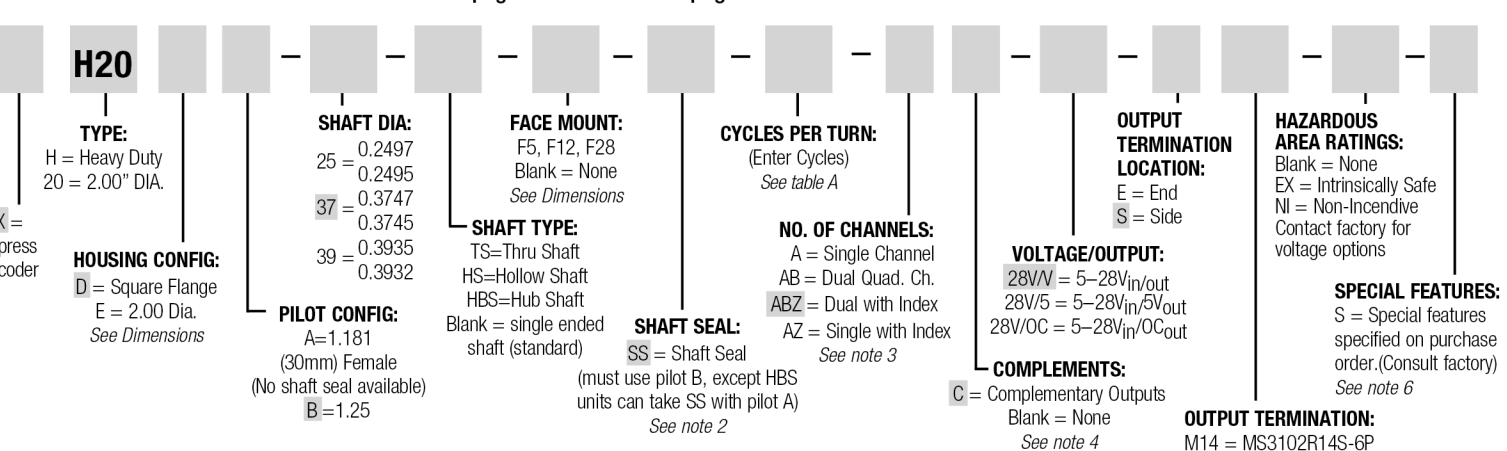
Humidity: 98% RH without condensation

NOTES & TABLES: All notes and tables referred to in the text can be found on the back of this page.

H20 Incremental Ordering Options

for assistance call 800-350-2727

Use this diagram, working from left to right to construct your model number (example: H20DB-37-SS-500-ABZC-28V/V-SM18).



EXPRESS ENCODERS[®] Items highlighted with are standard Express Encoders and ship in one to three days.

T2 option is available as a standard H20 Express Encoder.



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