

# HS35 Absolute Specifications

# MODEL HS35 Absolute

## Mechanical

**Shaft Bore:** 1.000, 0.875, 0.750, 0.625, 0.500. Diameters under 0.875 are supplied with insulated sleeves.

**Allowable Misalignment:** 0.005" T.I.R. on mating shaft 0.75" from shaft end

**Bore Runout:** 0.001 T.I.R. maximum

**Starting Torque at 25°C:** Through shaft version (SS) = 7 in-oz (max); Blind shaft version (BS) = 4 in-oz

**Bearings:** 52100 SAE High carbon steel

**Shaft Material:** 416 Stainless Steel

**Bearing Housing:** Die cast aluminum with iridite finish

**Cover:** Die cast aluminum with iridite finish

**Bearing Life:** 7.5 X 10<sup>9</sup> revs (50,000 hours @ 2500 RPM)

**Maximum RPM:** 6,000 mechanical (see Frequency Response, below)

**Moment of Inertia:** 0.019 oz-in-sec<sup>2</sup>

**Weight:** 18oz typical

## Electrical

**Code:** 12 bits NB or GC

**Counts Per Shaft Turn:** 4096

**Count Transition Accuracy:** ± 1/2 bit maximum

**Supply Voltage:** 5 – 30 VDC

**Current Requirements:** 120 mA typical

**Output Formats:** Parallel: Gray Code, Natural Binary

**Output Device:** (see note 5)

7272: Line Driver, 5 – 24 VDC,  $V_{out} = V_{in}$

7272: Line Driver, 5 – 24 VDC,  $V_{out} = 5$  volts (special feature)

7273: Open Collector, accepts 5 – 24 VDC

**Protection Level:** Reverse, overvoltage and output short circuit protection (7272 only)

**Frequency Response:** 100kHz (1200 RPM for 12-bits)

**Output Termination Pinouts:** See table page 37

## Environmental

**Enclosure rating:** NEMA 4 & 13 (IP65) when ordered with shaft seal (on units with an MS connector) or 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 @ 11 msec duration

**Vibration:** 5 to 2000 Hz @ 20 g's

**Humidity:** 98% non-condensing

## Connector:

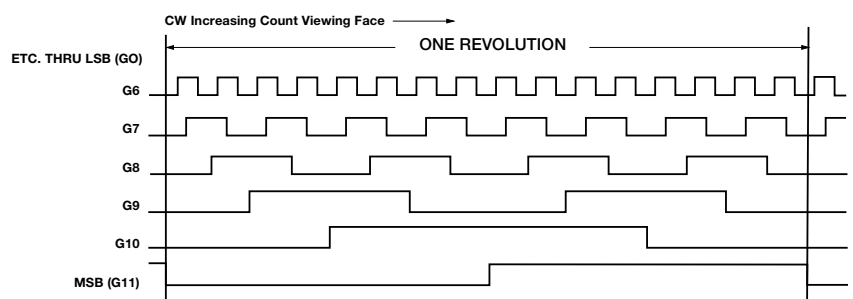
MS3112E14-19P, 19-pin connector on encoder body, mates to MS3116F14-19S (or equivalent)

All notes and tables referred to in the text can be found on pages 48 and 49.

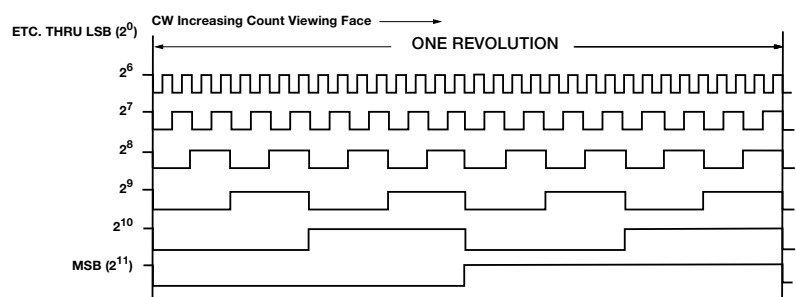


## Figure 1 & 2

### Figure 1 Gray Code



### Figure 2 Natural Binary



## Certifications

The Model HS35 Absolute Encoder is available with the following certifications:

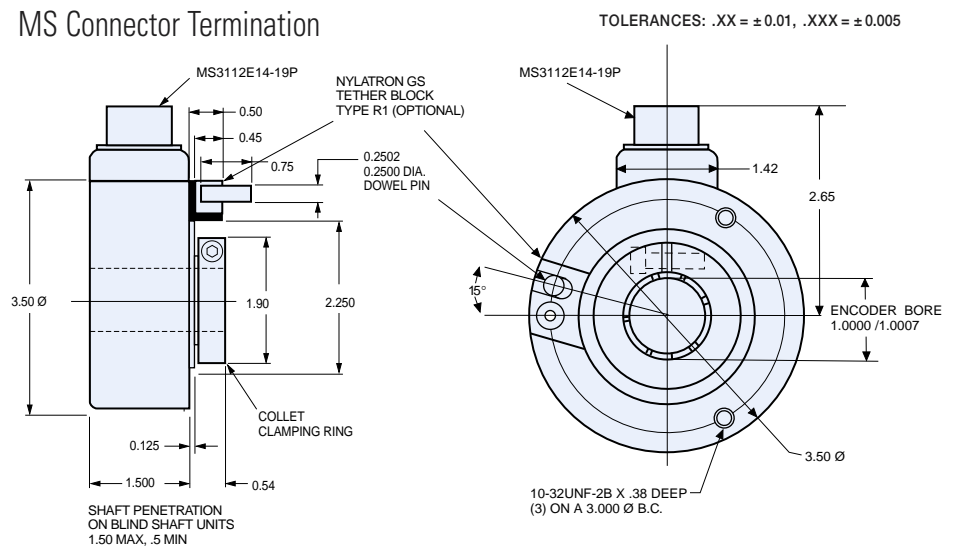


EN 50081-2 and EN 50082-2  
RFI immunity, emissions and ESD-pending. MS connector version only.

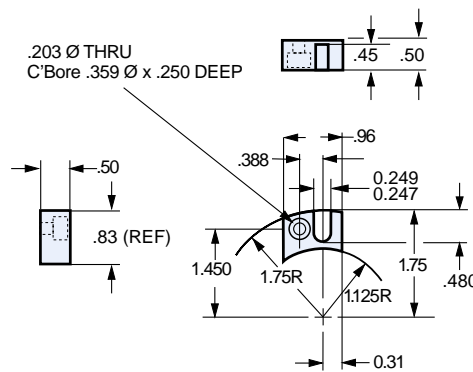
# Optical Encoder

Built on the same rugged design as the incremental model, the HS35 Absolute Encoder is available with various output options including Gray Code and Natural Binary. Designed with a cast aluminum housing, a sealed connector and shaft seals, it carries an IP65 environmental rating. With the optional insulating inserts, it can be mounted on smaller diameter shafts. It is designed for either a through shaft mounting or blind shaft mounting with a closed cover to maintain its environmental rating.

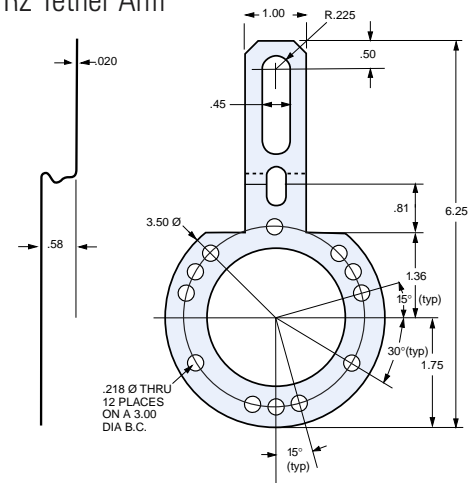
## MS Connector Termination



## R1 Tether Block and Pin



## R2 Tether Arm

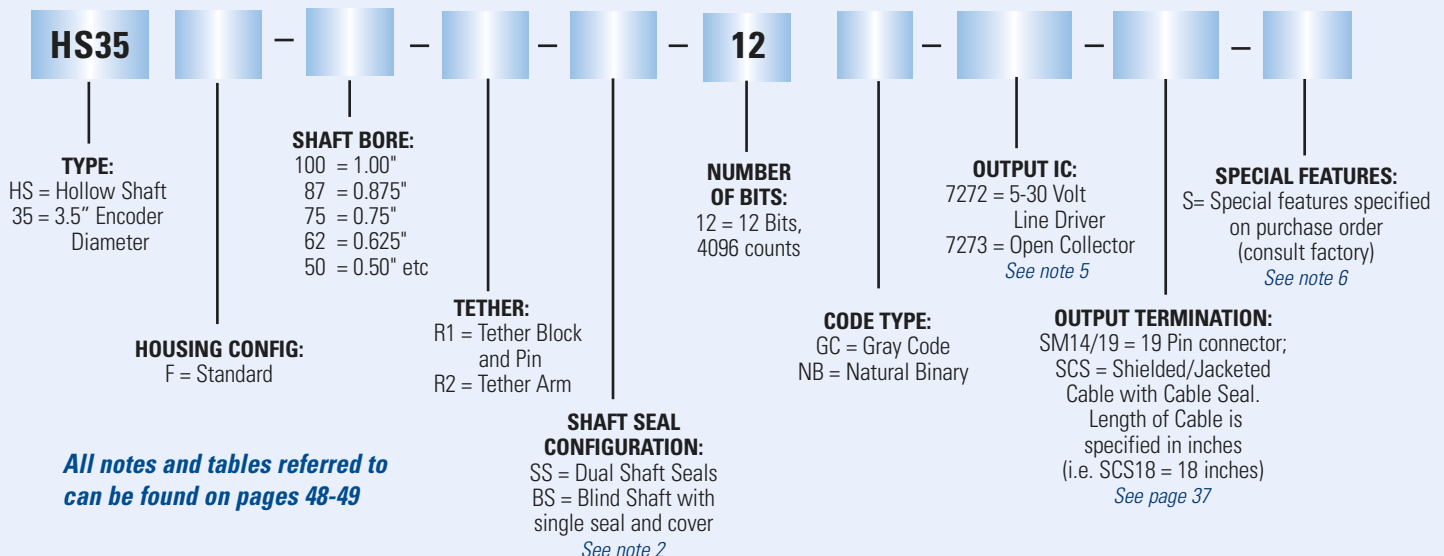


## HS35 Absolute Ordering Options

For assistance, call 800-350-2727

Use this diagram, working left to right to construct your model number.

**Example:** *HS35F-R1-100-SS-12GC-7272-SM14/19* (one possible configuration of the HS35 Absolute)



All notes and tables referred to can be found on pages 48-49