

## HTT-20-(x) Specification Sheet

SHEET # 940-2T153

### DESCRIPTION

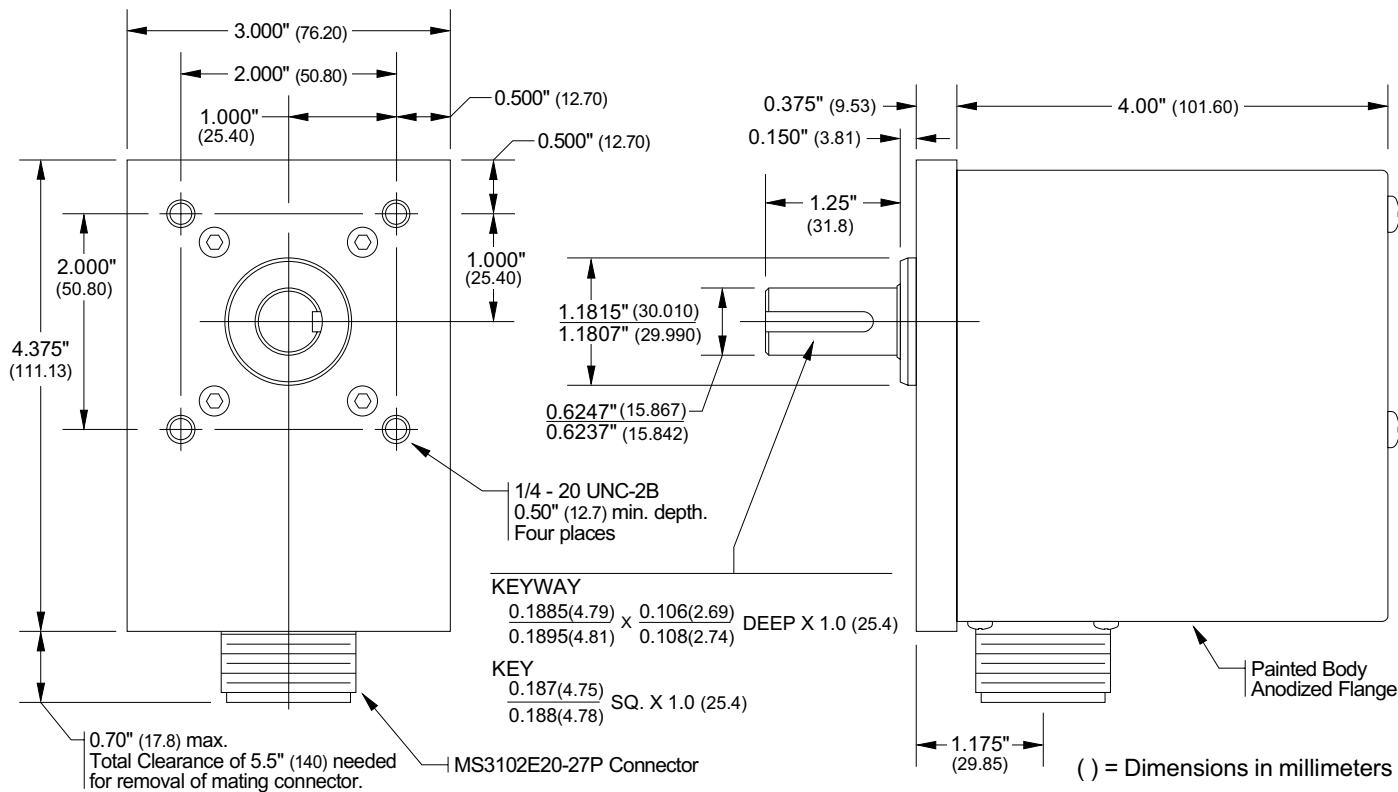
A HTT-20-(x) is a dual resolver transducer that encodes a multi-turn position. The first resolver, called the fine resolver, determines the position within the turn. The second, called the coarse resolver, determines the number of turns traveled. Therefore, the number of turns encoded does not affect the single turn resolution.

The two resolvers in each transducer are geared together in a vernier arrangement. For the 100 turn and 180 turn transducers, this arrangement requires only two gears. This mechanical simplicity makes the HTT-20 transducers more reliable than transducers that have a multi-pass gear train between the two resolvers and allowed AMCI to design the HTT-20 transducers as a space saving, compact package. The 1,000 and 1,800 turn transducers are also mechanically simple, having only a single pass 10:1 gear ratio between the input shaft and the two vernier resolvers.

The IP64 rating of the HTT-20-(x) means that it will survive most industrial applications including washdowns. The HTT-20-(x) is not recommended for corrosive environments. AMCI manufactures the HTT-425 transducers for these applications. Because of the large shaft bearings used in the HTT-20-(x), gears or pulleys can be directly mounted onto the shaft. However, use a flexible coupler when attaching the transducer to a machine shaft. Even a small misalignment or movement in the machine shaft can cause very large radial and axial loads on the transducer's bearing if the two shafts are directly coupled.

Because the HTT-20-(x) is an absolute sensor, it cannot "lose counts" as an incremental transducer can. If the HTT-20-(x) appears to be losing counts when operating, the usual cause is a shaft slipping in a loose coupler. Check all mechanical couplings and use shaft keys whenever possible.

### DIMENSIONAL DRAWING



### Available Number of Turns

100 180 1,000 1,800

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## SPECIFICATIONS

### Mechanical

Shaft Loading: Radial: 100 lbs. max.  
 Axial: 50 lbs. max.  
*Bearing life rated at 2X10<sup>9</sup> revolutions minimum at specified shaft load.*  
 Starting Torque: 8 oz.in. @ 25°C  
 Moment of Inertia: 8.75X10<sup>-4</sup> oz-in-sec<sup>2</sup> max.  
 Weight: 4 lbs

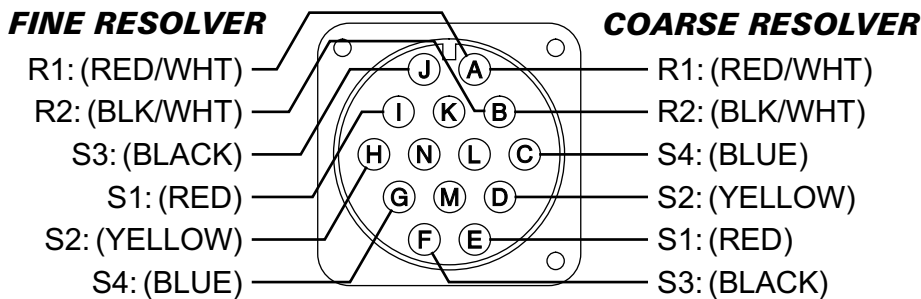
### Environmental

Shock: 50 g's for 11 milliseconds  
 Vibration: 15 g's to 2000 Hz  
 Operating Temp: -40 to 125°C (-40 to 257°F)  
 Enclosure: Powder Coated Aluminum Body  
 Anodized Aluminum Flange  
 1070 Carbon Steel Shaft  
 IP64 when connector properly sealed

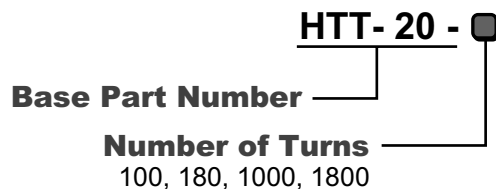
## CONNECTOR PINOUT

The figure below shows the connector pinout to industry standard designations and wire colors. The Fine and Coarse resolvers are linked with a vernier gear arrangement with the Fine resolver encoding the single turn position.

Military Equivalent: MS3102E20-27P



## PART NUMBERING SYSTEM



If you need assistance with specifying the right transducer for your application, contact the factory Monday through Friday 8AM to 5 PM Eastern at (860) 585-1254 or e-mail us at sales@amci.com.

## COMPATIBLE CABLES

Cables for the HTT-20-(x) multi-turn resolver transducer can be ordered from AMCI. The mating connector is preinstalled and all connections are 100% factory tested.

As shown in the table below, three different versions are available, with the difference being the installed mating connector. For all part numbers, "x" specifies the length of the cable in feet.

Cable #	AMCI Connector #	Military Equ. #
CML-x	MS-20 (Straight)	MS3106A20-27S
CML-x/MS22	MS-22 (Rt. Angle)	MS3108A20-27S
CML-x/MS201	MS-201 (Watertight)	MS3106F20-27S