

Transportation Attitude Reference Sensor (TARS Series)

Table 3. Electrical Characteristics • TARS-HCASS Catalog Listing

Characteristic	Min.	Nominal	Max.	Unit
Supply voltage	9	14/28	36	V
Supply current	–	–	100	mA
Reverse voltage	–	–	-36	V
Overvoltage	–	–	36	V
Start-up time	500	–	2000	mSec
Short circuit protection	CAN output shorted to power line and ground			
Open circuit protection	Single-line interruption and multiple-line interruption			
Reset response	Automatic after voltage drop			
CAN output characteristics per SAE J1939				
CAN Bus data rate	–	250	–	kBaud
Signal update rate	–	–	100	Hz

Table 4. Environmental Specifications

Characteristic	Parameter
Operating temperature	-40 °C to 85 °C [40 °F to 185 °F]
Storage temperature	-40 °C to 105 °C [40 °F to 221 °F]
Housing	PBT thermoplastic
Random vibration	8 hours per axis at 16.91 g RMS per MIL-STD-202, Method 214, Test Condition I, Letter E
Mechanical shock	50 g 11 ms half-sine pulse, 3 each direction, 18 total, per MIL-STD-202, Method 213
Chemical compatibility	Diesel fuel, hydraulic oil, ethylene glycol, motor oil, brake fluid, urea nitrogen, liquid lime, NPK fertilizer, ammonium hydroxide, alkaline degreaser, transmission oil, power steering fluid, and axle oil
Moisture resistance	per MIL-STD-202, Method 106 (10 cycles, 24 hours/cycle)
Thermal shock	250 cycles, -40 °C to 85 °C, 73 min dwell
Salt spray	5 % salt solution, 96 hours
Ingress protection	IP67, IP69K (DIN40050-1993) with mating connector installed
RoHS	Compliant
REACH	Compliant
UV rating	Enclosure material meets outdoor suitability requirements per UL746C F1 rating

Table 5. EMC Specifications

Characteristic	Standard	Test Level, Frequency
Radiated immunity	ISO 11452-2	125 V/m, 400 MHz to 2.5 GHz
Bulk current injection	ISO 11452-4: 2011	125 mA, 1 MHz to 400 MHz
Radiated emission	ISO 13766	30 MHz to 1 GHz
Mutual coupling	ISO 7637-3	Test pulse A, Test pulse B (-80 V, 80 V)
ESD direct contact discharge	ISO 10605	±8 kV
ESD air discharge	ISO 10605	±15 kV

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Table 6. Installation Specifications

Characteristic	Parameter
Mating connector	AMPSEAL 16 Series, 776487-1 for 18-16 AWG conductors or 776524-1 for 20-18 AWG conductors
CAN termination	120 Ohm termination resistor, not included in TARS-IMU unit
Weight	170 g approx.
Mounting direction	+ Z
Mounting bolt	M8, installation torque 20 Nm ±2 Nm

Table 7. Order Guide

Part Number	Description
TARS-LCASS	TARS Series Inertial Measurement Unit, 5 V, CAN protocol, AMPSEAL 16 termination, standard MEMS chip generation/performance
TARS-HCASS	TARS Series Inertial Measurement Unit, 9 V to 36 V, CAN protocol, AMPSEAL 16 termination, standard MEMS chip generation/performance

PRODUCT NOMENCLATURE

