



LIQUID MEASUREMENT SYSTEMS

SIGNAL CONDITIONER UNIT (SCU)

More System Options – Reduced Development Time & Cost

OVERVIEW

- Delivers Class III accuracy
- Processes signals from up to 12 probes/sensors
- Capacity for up to 8 different tank configurations
- All in one signal conditioning unit

ENCLOSURE

- Dimensions: 6.4" x 6.3" x 2.7" (16.3cm x 16.0cm x 6.9cm)
- Weight: Approx. 2 lbs. (0.9kg)
- Connectors: D38999/26SC35SN, D38999/26SD35SA, D38999/26SE35SN, D38999/26SD35SN
- Material: Nickel plated aluminum

FEATURES

- Safety
 - Detects fuel imbalance
 - DO-160 Level 4 Lightning Protection
- Reliability
 - Startup, continuous, and initiated Built-In-Test (SBIT, CBIT, IBIT)
 - Increased operational availability via operational fault management (reduced Common Mode Failures)
- Fuel temperature measurement
- No field calibration when paired with LMS probes and sensors
- Slosh filtering
- High and low-level detection

SYSTEM ACCURACY

- MIL-G-26988C Class III ($\pm 1\%$ indication, $\pm 0.5\%$ full scale)
 - Densitometer required
 - No compensator required for one fuel type
 - Compensator required for multiple fuel types
- MIL-G-26988C Class II ($\pm 2\%$ indication, $\pm 0.75\%$ full scale)
 - No compensator required for one fuel type
 - Compensator required for multiple fuel types
- MIL-G-26988C Class I ($\pm 4\%$ indication, $\pm 2\%$ full scale)
 - No compensator required for multiple fuel types

OPERATIONAL TEMP RANGE

- -55°C to $+75^{\circ}\text{C}$

INPUTS

- One SCU can excite and monitor up to twelve (12) fuel probes or compensators and up to twelve (12) temperature sensors. More functionality means fewer SCUs per system.
- Select up to eight (8) different tank configurations
- Up to one (1) ARINC 429 receive only data busses
- 8 discrete inputs (4 open/gnd, 4 open/28V)
- Input: 28VDC

OUTPUTS

- Up to two (2) ARINC 429 transmit/receive data busses
- Two 0-10V analog outputs
- Up to 8 discrete outputs
- Customer specific requirement

POWER REQUIREMENTS

- Input: 28VDC per MIL-STD-704
- Current draw: $< 100\text{mA}$
- Maximum power consumption: 7W



IMPROVED SIGNAL CONDITIONER
UNIT (SCU)



LIQUID MEASUREMENT SYSTEMS, INC.
FUEL PROBES • CONDITIONERS • FUEL INDICATORS • REFUEL PANELS
www.liquidmeasurement.com

141 Morse Drive, Fairfax, VT 05454

+1.802.528.8100

Kerry.McGovern@liquidmeasurement.com



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DO-160G Section and Description		Category
1	Temperature & Altitude	B2
2	Temperature Variation	A
3	Humidity	A
4	Operational Shocks and Crash Safety	B
5	Vibration	S (Curve T) R (Curve G)
6	Explosive Atmosphere	E
7	Waterproofness	W
8	Fluids Susceptibility	F
9	Sand and Dust	S
10	Fungus Resistance	F
11	Salt Fog	S
12	Magnetic Effect	Y
13	Power Input	ZXX
14	Voltage Spike	A
15	Audio Frequency Conducted Susceptibility	Z
16	Induced Signal Susceptibility	ZCX
17	Radio Frequency Susceptibility (Radiated and Conducted)	R
18	Emission of Radio Frequency Energy	M
19	Lightning Induced Transient Susceptibility	A3J3L3
20	Lightning Direct Effects	X
21	Icing	A
22	Electrostatic Discharge (ESD)	A
23	Fire, Flammability	C



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