Ultrasonic, accurate flow measurement

FIA HOMOLOGATED FOR THE WORLD ENDURANCE CHAMPIONSHIP LM P1 CLASS FOR THE 2018 SEASON

- Market leading step response time
- Flow rate up to 8000 ml/min
- Bi-directional flow measurement in high transient condition

FLOW MEASUREMENT

Measurement range	+/- 8000ml/min
Flow measurement rate	2.2 kHz internal measurement rate CAN outputs at 100Hz, with filtering (1)
Flow pressure loss	ISOPAR C: 5kPa@2000ml/min, 16kPa@4000ml/min. LM24 Diesel: 75kPa@8000ml/min. All at 25°C

TEMPERATURE MEASUREMENT

Measurement type	2 x PT-1000 immersed sensors at fuel inlet and outlet

ELECTRICAL

Supply voltage	4.75V DC – 22.0V DC
Supply current	<100 mA @ 12 - 17V DC <180mA @ 4.75 - 5.5V DC
Supply voltage protection	Reverse polarity -38V Over voltage 58V No surge clamping

CONFIGURATION INTERFACE

Interface type	RS-485 Half-Duplex (2-Wire) with networking. Encrypted. No termination

ENVIRONMENTAL

Storage temperature	-40° to +85°C
Operating temperature	-20° to +85°C (2)
Environmental protection	IP68, 300kPa for 2 hours in water (excluding electrical connector) (3) (4)
EMC	Not rated
External pressure rating	300kPa (excluding connector) (3)
Intrinsic safety rating	None. Not IS rated by design.

CAN COMMUNICATIONS

Design standard	ISO 11898-2 (High speed applications)
Message format	2.0A (11 bit identifier)
Baud rate	1Mbit/sec
Base message ID	0x190 to 0x193
'Multiple fit' message IDs (5)	0x190 to 0x193 22k 0x194 to 0x197 5k6 0x198 to 0x19B 1k8 (6)
CAN termination	None

MECHANICAL

Mass	235g dry
Fuel volume	11 ml
Wetted materials (7)	Aluminium alloy anodised to ISO 7599 PTFE, PEEK *
Meter connector	Deutsch ASDD006-09-PD-FI-952K
Mating connector	Deutsch ASDD606-09-SD-FI-952K
Fuel compatibility	Petroleum, diesel, bio fuels, race fuels (LM24 petroleum, LM24 diesel, F1 petroleum blends)
Fuel pressure	50kPa to 2000kPa operating, 6000kPa survival (8)

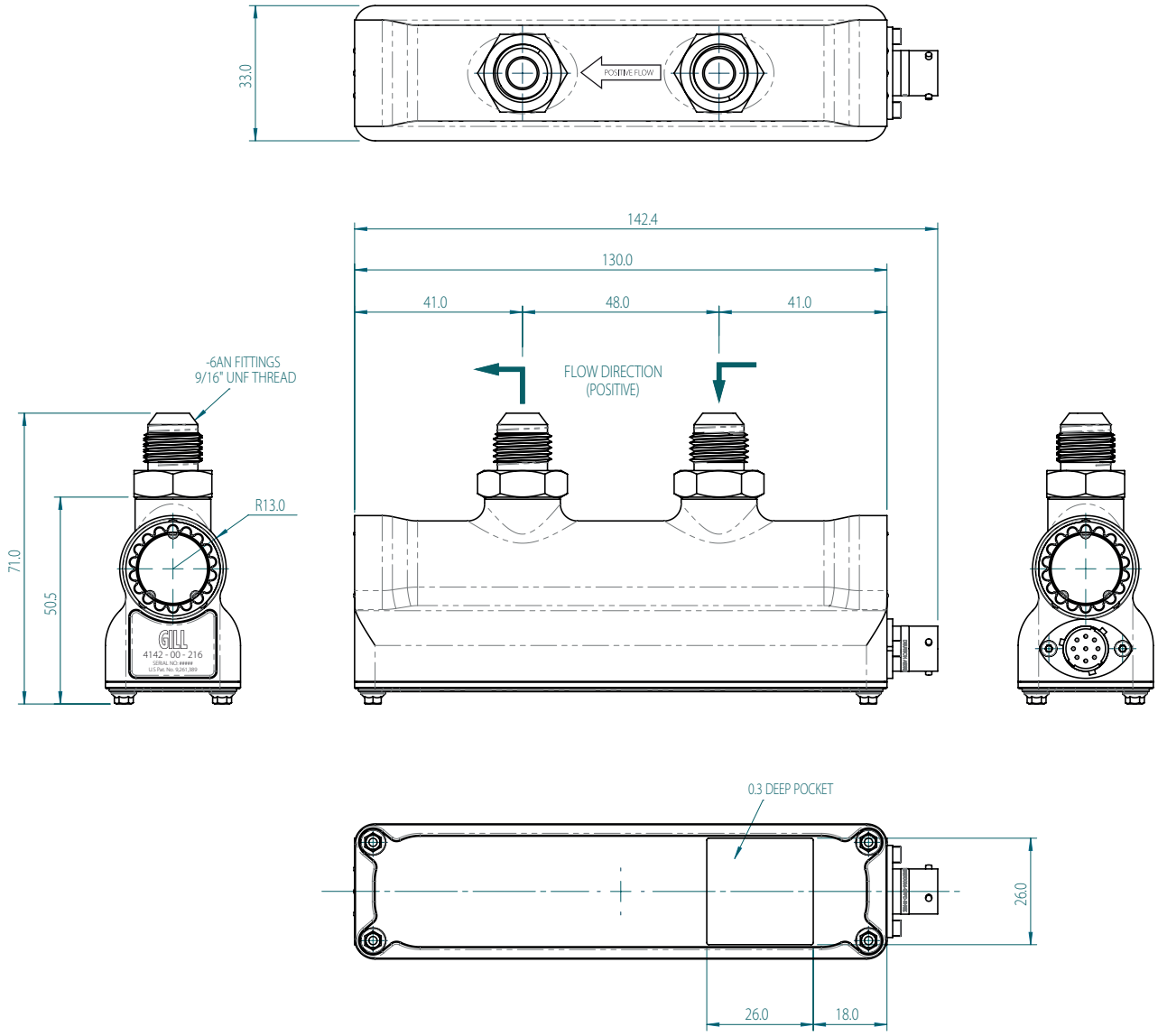
(1) Output availability is subject to calibration procedure.
(2) Limited by some electronic part ratings. All internal materials in contact with fuel are rated at 110°C.
(3) See manufacture's specification for electrical connector rating.
(4) Design Standard.
(5) "Multiple Fit" is a configurable feature which allows meters to be dynamically allocated a CAN base ID through the use of different resistor values across Pin 8 and 9.
(6) Resistor: maximum 3V applied, typically fitted within the mating connector.
(7) Internal materials in flow path excluding fuel connector/union.
(8) Cavitation and entrained gas can cause meter damage and spurious measurement results, this must be avoided by appropriate system design and flow meter operation.

ORDERING

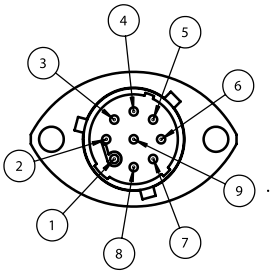
4142-PK-017

Specifications are subject to change without notice.
* Colours may vary

DIMENSIONS



CONNECTION

Pin	Function	Connector Pin Numbers
1	Supply (+)	
2	CAN High 1 (CANH1)	
3	CAN Low 1 (CANL1)	
4	Do not connect	
5	Do not connect	
6	RS-485 (A)	
7	RS-485 (B)	
8	CAN ID select resistor	
9	Ground (-)	

ASDD006-09-PD-FI-952K