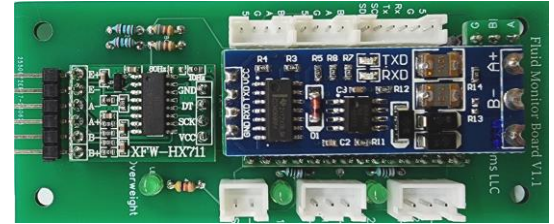


General Specifications

Supply Input	5V (from connected RS485 bus)
Dimensions	3.5" X 1.5" (90mm X 38mm) With 3mm mounting holes
Leak Detector Inputs	2
Loadcell Inputs	1
RS485 Ports	2
Control Protocol	Proprietary I2C interface, optimized for fast streaming Protocol. Additional protocols available upon request.
Secondary Control Interface	TTL level serial port
Mating Connectors.....	To Master Board: JST 6-pin, 2mm pin spacing Leak Detectors: JST 3-pin. 2.54mm pin spacing Leak Output Flag: JST 2-pin 2.54 mm pin spacing Loadcell: 2.54mm spaced pin header
Leak Detectors.....	Accepts opto-electronic leak detectors operating at 5VDC. Many standard detectors are available, e.g. EPTTECH FS-IR1901D Optical Infrared Water/Oil Sensor (prewired)
ADC Resolution	24 bit (based on HX711)
Operating Temperature	-20 to 85 °C PCB copper temperature
Relative Humidity.....	10% to 90% non condensing (operating and storage)

Fluid Monitor Version 1.1

Leak Detection and Weight Monitor



Leak Detector CONNECTOR

Mating connector: JST-XH 3-Pin Connector
PCH part JST-502

Pin	Function	Notes
1	Contact 1	5VDC
2	Contact 2	Input
3	Contact 3	Gnd

Flag Output CONNECTOR

Mating connector: JST-XH 2-Pin Connector
PCH part JST-501

Pin	Function	Notes
1	Contact 1 -- Output	3.3VDC or Gnd
2	Contact 2 -- Gnd	Gnd

BOARD INTERCONNECT CONNECTOR

Mating connector: JST connector PH-6P
Digikey part S9455-ND

Pin	Function	Notes
1	+5VDC	Marked "5" in the diagram
2	Ground	Marked "G" in the diagram
3	Receive	Serial In
4	Transmit	Serial Out
5	I2C SCL	Marked "SCL" in the diagram
6	I2C SDA	Marked "SDA" in the diagram

Loadcell CONNECTOR

Mating connector: 0.1 inch pin spaced Molex

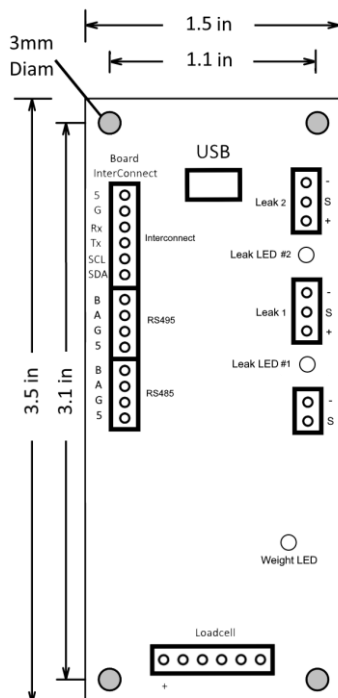
Pin	Name	Notes
1	E+	Excitation Pos
2	E-	Excitation Neg
5	B-	Ch B Neg
6	B+	Ch B Pos

RS485 CONNECTORS

Mating connector: JST connector PH-4P
Digikey part S9457-ND

Pin	Name	Notes
1	RS485-B	Marked "B" in the diagram
2	RS485-A	Marked "A" in the diagram
3	Ground	Marked "G" in the diagram
4	VCC	Marked "5" in the diagram

Mechanical Specifications



NWCS LLC
133-25 Jylha Rd.
Rochester, WA 98579

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Key Features

- Native USB interface
- Two optical leak sensor inputs
- Derives power from master
- Loadcell input
- Output flag for immediate leak notification
- Based on 32 bit ARM architecture
- Streaming of data to master
- RS485 communication
- LED indicators for leak or over-weight
- Demo software provided
- Custom programming available

Ordering Information

Name	Order Number
Fluid Monitor Board.....	FM030-G1
Interconnect Cable (option).....	CBL-09
Dual Stepper Board Master (option).....	STEP020-B2
Optical Leak Detector (option).....	ENC-02

REV 060123