ELECTRONIC PRESSURE MEASUREMENT PRODUCTS

Level Mate III
Level Measurement System

DESCRIPTION

The AMETEK LEVEL MATE III Level System has a model 575SB stainless steel transmitter as standard. A variety of other submersible sensors may be chosen for the system to best suit the media and application. Both general purpose and hazardous use sensors are available.

The customized LEVEL MATE III meter provides excitation voltage to the sensor, displays data from the sensor and can transmit an optional analog output signal for remote monitoring or recording. The system is easy to calibrate from front panel buttons or from a PC with Meter View software option. The large, easy to read dual line LED display provides local indication while the optional isolated analog output can interface with ancillary display, recording or control devices. 2 or 4 standard relay options allow for set and reset programming. With standard desiccant and optional onboard surge protectors the LEVEL MATE III Level System provides you with the most versatile level measurement system on the market. Factory programming allows for quick installation and field labor time savings.

Level Mate III

shown with Model 575SB transmitter

FEATURES

- Two year factory warranty on the system
- Complete system of sensor, cable and meter/ controller in a NEMA 4X enclosure
- Intrinsically safe sensors – Models 575S, 575P, 675 (with approved safety barrier)
- Rugged stainless steel sensor housing provides excellent environmental and media compatibility
- Sensor vented to atmosphere through the surface end of the cable or via separate vent tube
- Microprocessor controlled meter for quick, easy set up and calibration
- Large dual line 6 digit LED display
- Programmable display and function keys
- Meter can be programmed for inches of water, feet of water, meters of water or any desired engineering unit
- Alternating pump control, 32 point, square root or exponential linearization standard features
- Modbus® RTU communication protocol standard

Options include:

- AC and DC lightning and surge protectors
- 4 relay expansion module
- Isolated 4-20 mA analog output from meter
- USB serial communication kit for configuring, monitoring and data logging from a PC using DDMC MeterView software (available for download)

APPLICATIONS

- Municipal water systems and wells
- Inventory tank gauging
- Landfills
- Lift stations
- Flood channels
- Pump control
- Rivers, lakes, ponds

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SPECIFICATIONS

These specifications pertain to the standard model 575SB with a #20 AWG polyurethane jacketed cable.

Refer to specific data sheets for other sensor and cable specifications.

Ranges:

Feet of Water: 0 to 14, 0 to 35, 0 to 69, 0 to 138, 0 to 230, 0 to 345, 0 to 460, 0 to 690

Meters of Water: 0 to 4, 0 to 10, 0 to 21, 0 to 42, 0 to 70, 0 to 105, 0 to 140, 0 to 210

Temperature Range:

General Ambient Operating: -25 to 180°F (-32 to 82°C)**

*** CSA intrinsically safe when connected per AMETEK drawing BK750535. Temperature code T3C ambient high temperature limit (Tamb) = 104°F (40°C) max.*

If submerged in a liquid that has frozen, damage will result

Storage: -40° to 180°F (-40°C to 82°C)

Compensated: -5° to 55° C (23° to 130°F)

Temperature Effects: Typical ±1% output change for ±25° C temperature change within compensated range when calibrated at 25°C

Accuracy: ±0.25% full scale (including linearity, hysteresis, repeatability) B.F.S.L.

Transmitter Output: 4 to 20mADC, limited to 30 mADC

Transmitter Power Supply: 24 VDC from meter

Transmitter Electrical Connection (standard):

Attached #20 AWG polypropylene insulated and shielded conductors in a black polyurethane jacket. Unspliced lengths to 3000 ft. (1622 m)

Meter Housing Construction: NEMA 4X fiberglass reinforced polyester enclosure with a transparent polycarbonate hinged cover

Transmitter Cable Color Code:

RED (+) excitation

BLACK (-) excitation

GREEN (caseground)

Transmitter Construction:

Diaphragm: Type 316L stainless steel

Housing Type: 316 stainless steel

Nut/Washer Type: 316 stainless steel

Cable Grommet: Viton

See individual data sheets for other model transmitters

LED Meter Display:

Upper display: 0.60" (15mm) high

Lower display: 0.46" (12mm) high

Both display 6 digits (-99999 to 99999)

Meter Input Voltage (standard AC meter): 85 to 265 VAC @ 50/60 Hz, 90-265 VDC, 20 W maximum

Consult factory for DC input model meter

Meter Ranges: Calibrated to transmitter range in psi, inches, feet, meters of water, or other desired engineering units -1999 to 9999.

Meter Temperature Ranges:

Operating: -40° to 65° C (-40° to 150°F)

Storage: -40° to 85°C (-40° to 185°F)

Meter Output: Isolated 4 to 20 mA (optional)

While the output is nominally 4-20 mA, the signal will accurately accommodate under and over ranges from 1 to 23 mA

Meter Relay Outputs:

N.O.

Form C (SPDT) relays rated 3A @ 30 VDC and 125/250 VAC resistive load

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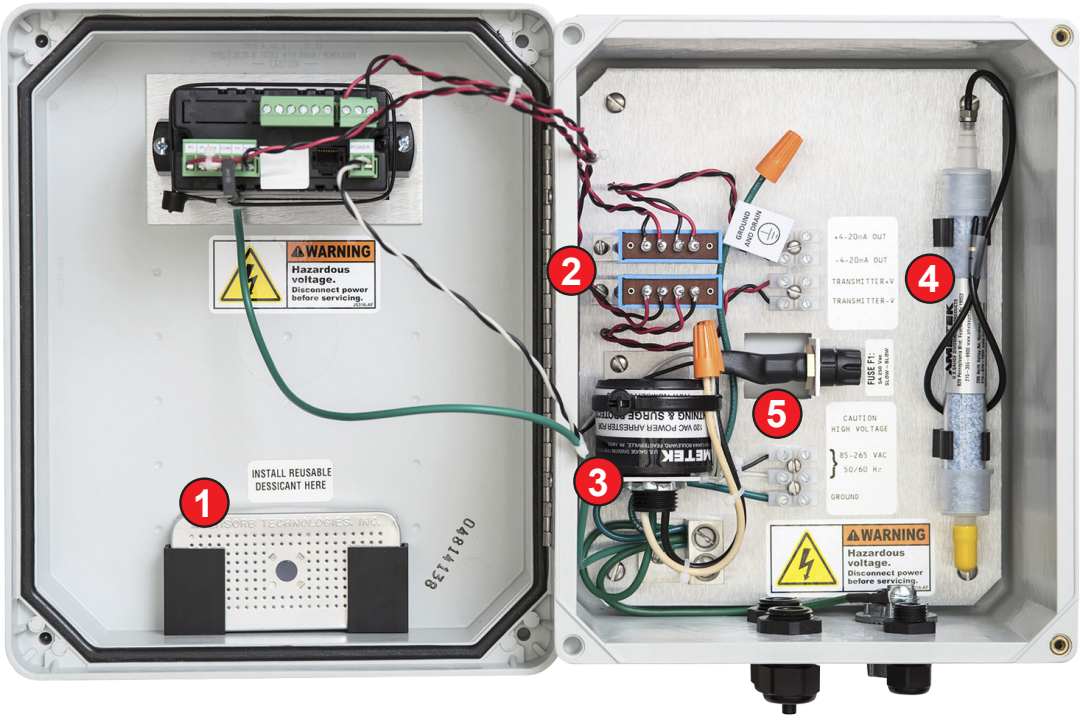

INSIDE VIEW

ACCESSORIES/OPTIONS

Inside view of the Level Mate III enclosure showing factory wiring of the meter as well as AC power and sensor connection terminals.

1. Standard reusable canister desiccant **Part# K234432** (initial desiccant supplied)
2. Optional DC lightning and surge protectors **Part# LMA912** (protection for excitation and signal lines between meter and transmitter)
3. Optional AC lightning and surge protectors **Part# LMA918** 115 VAC, **Part# LMA919** 230 VAC (protection for power line to the meter)
4. Disposable 8" in-line cartridge desiccant (for use with sensors using a separate vent tube). Initial desiccant supplied - **Part# K234436** (full assembly with tubing and hardware)
   Replacement CARTRIDGE ONLY **Part# K234446** (requires some assembly of parts from original full assembly)
5. Built in fuse 5A 250 VAC

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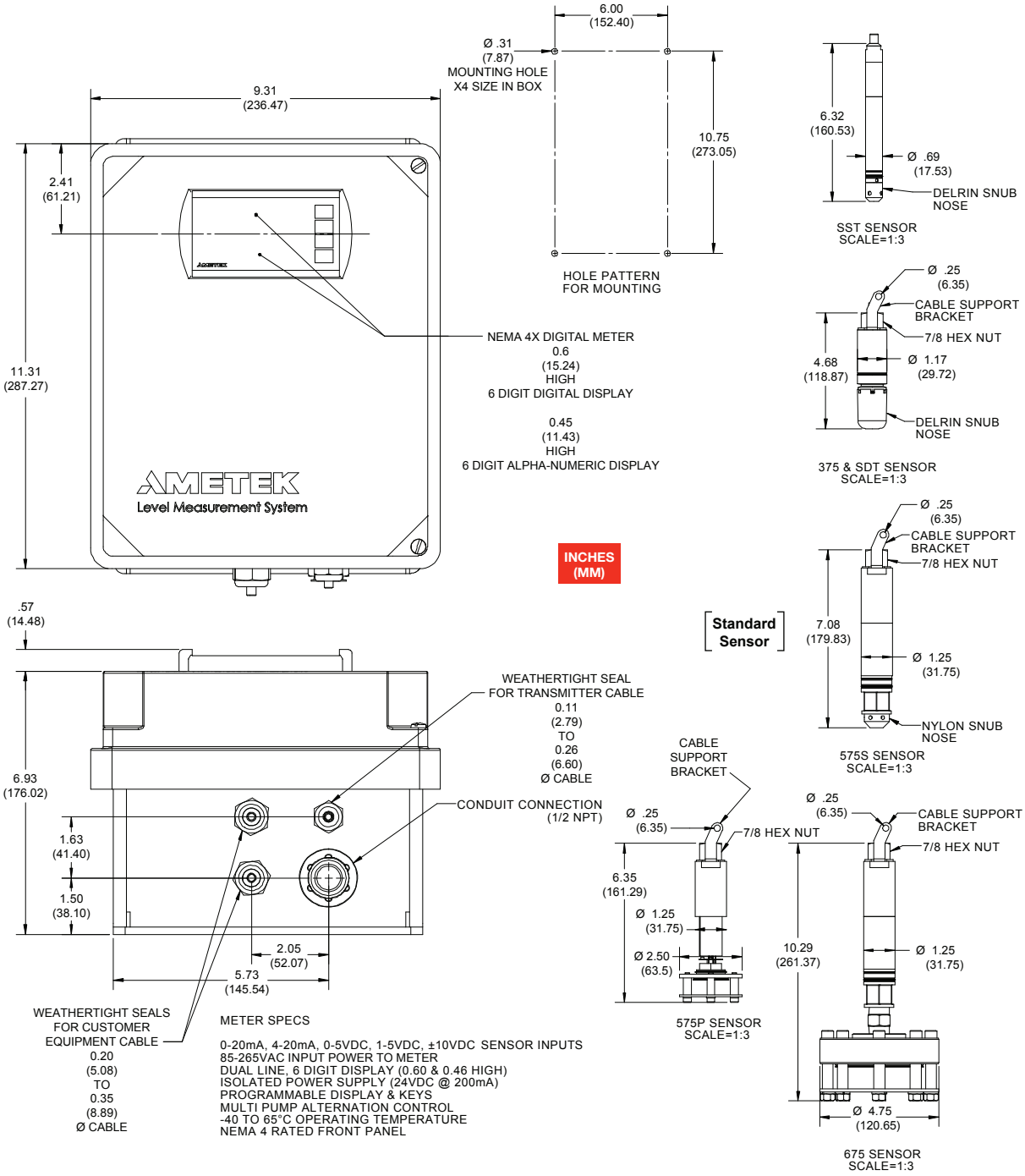

METER SPECS

0-20mA, 4-20mA, 0-5VDC, 1-5VDC, ±10VDC SENSOR INPUTS
85-265VAC INPUT POWER TO METER
DUAL LINE, 6 DIGIT DISPLAY (0.60 & 0.46 HIGH)
ISOLATED POWER SUPPLY (24VDC @ 200mA)
PROGRAMMABLE DISPLAY & KEYS
MULTI PUMP ALTERNATION CONTROL
-40 TO 65°C OPERATING TEMPERATURE
NEMA 4 RATED FRONT PANEL

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Model Numbering:

Level Mate III

LM Base model

Sensor type	Sensor Model Number	Display Range
5	575SB0006RLS	0 to 13.8 ft (0 to 4.2m)
	575SB0015RLS	0 to 34.6 ft (0 to 10.5m)
	575SB0030RLS	0 to 69.2 ft (0 to 21.1m)
	575SB0060RLS	0 to 138.4 ft (0 to 42.2m)
	575SB0100RLS	0 to 230.7 ft (0 to 70.3m)
	575SB0150RLS	0 to 346.0 ft (0 to 105.4m)
	575SB0200RLS	0 to 461.3 ft (0 to 140.5m)
	575SB0300RLS	0 to 692.0 ft (0 to 211.0m)
P	575PB0006RLS	0 to 13.8 ft (0 to 4.2m)
	575PB0015RLS	0 to 34.6 ft (0 to 10.5m)
	575PB0030RLS	0 to 69.2 ft (0 to 21.1m)
	575PB0060RLS	0 to 138.4 ft (0 to 42.2m)
	575PB0100RLS	0 to 230.7 ft (0 to 70.3m)
	575PB0150RLS	0 to 346.0 ft (0 to 105.4m)
	575PB0200RLS	0 to 461.3 ft (0 to 140.5m)
	575PB0300RLS	0 to 692.0 ft (0 to 211.0m)
6	675PB0006MLS	0 to 13.8 ft (0 to 4.2m)
	675PB0015MLS	0 to 34.6 ft (0 to 10.5m)
	675PB0030MLS	0 to 69.2 ft (0 to 21.1m)
3	375SB0006RLSV	0 to 13.8 ft (0 to 4.2m)
	375SB0015RLSV	0 to 34.6 ft (0 to 10.5m)
	375SB0030RLSV	0 to 69.2 ft (0 to 21.1m)
	375SB0060RLSV	0 to 138.4 ft (0 to 42.2m)
	375SB0100RLSV	0 to 230.7 ft (0 to 70.3m)
	375SB0150RLSV	0 to 346.0 ft (0 to 105.4m)
	375SB0200RLSV	0 to 461.3 ft (0 to 140.5m)
	375SB0300RLSV	0 to 692.0 ft (0 to 211.0m)
S	SSTSB0006PLSV	0 to 13.8 ft (0 to 4.2m)
	SSTSB0015PLSV	0 to 34.6 ft (0 to 10.5m)
	SSTSB0030PLSV	0 to 69.2 ft (0 to 21.1m)
	SSTSB0060PLSV	0 to 138.4 ft (0 to 42.2m)
	SSTSB0100PLSV	0 to 230.7 ft (0 to 70.3m)
	SSTSB0150PLSV	0 to 346.0 ft (0 to 105.4m)
D	SDTSB0006RLSV	0 to 13.8 ft (0 to 4.2m)
	SDTSB0015RLSV	0 to 34.6 ft (0 to 10.5m)
	SDTSB0030RLSV	0 to 69.2 ft (0 to 21.1m)
	SDTSB0060RLSV	0 to 138.4 ft (0 to 42.2m)
	SDTSB0100RLSV	0 to 230.7 ft (0 to 70.3m)
	SDTSB0150RLSV	0 to 346.0 ft (0 to 105.4m)

Accessories	Part Number
* Length of model 575 / 575P, standard, factory installed, non vent tube, polyurethane, waterproof cable (4 cond / 20 AWG)	K515076
* Length of model 675 / 375 / SST, standard, factory installed, vent tube, polyurethane, waterproof cable (3 cond / 22 AWG)	K515072
* Length of model SDT, standard, factory installed, non vented tube, polyurethane, waterproof cable (6 cond / 24 AWG)	K515136
Metal conduit connector for NEMA 4X weathertight housing (0.11 to 0.26 cable ∅ range)	K554149
Cable strain relief cord grip for NEMA 4X weathertight housing (0.16 to 0.31 cable ∅ range)	K554167
Cable strain relief cord grip for NEMA 4X weathertight housing (0.20 to 0.35 cable ∅ range)	K554148
Surge protector for excitation and signal lines between meter and transmitter	LMA912
Surge protector for 115 VAC line to the meter	LMA918
Surge protector for 230 VAC line to the meter	LMA919
USB serial communications adaptor kit (for programming meter and software download)	K516131
Reusable desiccant for Level Mate box	K234432
8" desiccant for transmitter with vented cable	K234436
4 relay expansion module (see DDMC manual for details)	K740366
Meter copy cable (see DDMC manual for details)	K516132
Stainless steel support	K515183

Meter output *(other power and relay options available, consult factory)*

A	2 relays
B	2 relays, 4-20mA output (specify output and calibrated range)
C	4 relays

DC surge protection

0	No DC surge protection
1	Surge protection for signal line between meter and transmitter (LM912)
2	Surge protection for signal line between meter and customer equipment (LM912)
3	Surge protection for signal line between meter and transmitter and meter and customer equipment (LM912 - 2 required)

AC surge protection

0	No AC surge protection
1	115 VAC surge protection for input line to the meter (LM918)
2	230 VAC surge protection for input line to the meter (LM919)

LM 5 A 0 0

** Consult factory for other sensor and cable options.*

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