



Model 0360 UMB Optical Pulser

- Replaces "Mechanical Stack" (Retrofit Capability)
- Converts Mechanical Rotation into Electrical Output
- High Frequency Pulse Resolution
- Explosion Proof/Weather Proof Housing
- Extremely Low Torque Load
- Adapts to Most PD Meters

Description

The Brodie UMB Pulser, is a device that can be fitted to a mechanical flow meter to provide an electrical output signal proportional to the volume measured. It is designed to replace old fashioned mechanical stack up assemblies so to adapt the flow meters to modern day control systems and electronic instrumentation that required pulsed input signals.

Specifications

WARNING: Do not operate this instrument in excess of the specifications listed below. Failure to heed this warning may result in serious injury and/or damage to the equipment.

Temperatures Limits

- Ambient: -40 to 140 Deg F, -40 to 60 Deg C
- Operating: -40 to 167 Deg F, -40 to 75 Deg C

Materials of Construction

Housing: Aluminium: Grade A356

Electrical Details

Preamplifier

Supply voltage: 9 to 28 VDC, 130 mA Max Outputs (Jumper Selectable)

Square wave: (See Figure 1)

0 to 5 KHz

5 V or supply voltage less 5% powered pulse (Jumper Selectable):

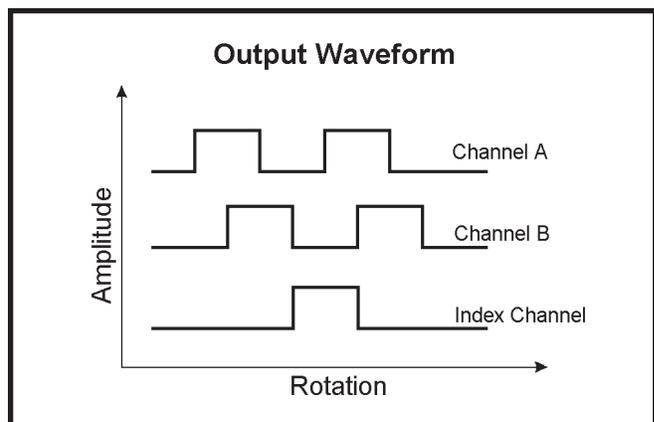
Loading: 1k ohm internal pull up



- Open Collector
- Max voltage: 30 VDC
- Max current: 125 mA
- Max power: 0.5 W
- Duty Cycle: 50/50 +/- 20%
- Pulses per revolution: 500 Dual Channel
1000 Single Channel

Max transmission distance: Belden 8762 (2 conductor), Belden 8772 (3 Conductor) shielded 20 gauge wire or equivalent up to 500 ft (152 m) Belden 8760 (2 conductor), Belden 8770 (3 Conductor) shielded 18 gauge wire or equivalent from 500 to 3000 ft (152 – 914 m)

Figure 1: Optical Pulser Preamp Output



UMB Pulser Approvals

Environmental

IP 65

Type 4 (When Installed Vertically)

Electromagnetic Emissions & Immunity

CE European Union (EN 61326)

FCC 47 CFR PART 15

ICES-003 ISSUE 4

Hazardous Area Approvals

Temp Ambient. -40 to 60°C, -40 to 140°F

CSA (United States and Canada)

Class 1, Division 1, Group C, and D

Certificate: 2212486 221162

ATEX

CE 0359  II 2 G Ex d IIB T6...T3

Certificate: ITS07ATEX15663X

IEC Ex

IEC Ex d IIB T6...T3 Gb

Certificate: IEC Ex ITS 08.0020X

Principle of Operation

The 0360 UMB pulser includes an optical encoder, code wheel, detectors and preamplifier board. As the code wheel rotates, it interrupts a light beam transmitted from a light emitting diode in the optical detector. Signal processing circuitry receives this signal and produces two primary, high resolution channels and an index channel. The two primary channels, A and B, are 90 electrical degrees out of phase. Channels A and B may be combined to double the output. All configurations give one pulse per revolution on the index channel. The output is a user selectable square wave or open collector.

Table 1: Shipping Weights and Volume

	Weight	Dimensions
0360	(2.7 kg)	(320 x 280 x 230mm)

Chart 1: Hazardous Area Temperature Classification Chart (T Chart)

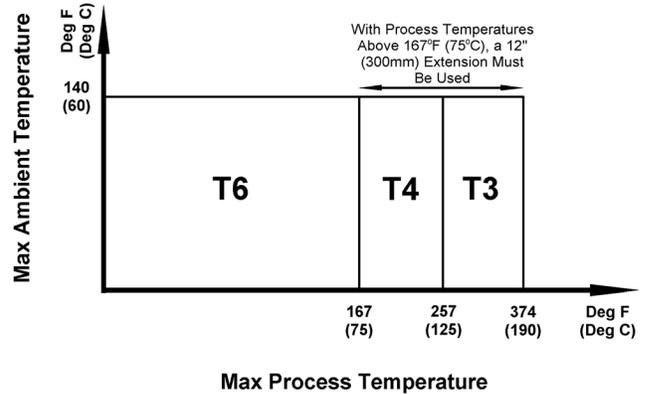


Figure 2: Electrical Wiring Diagram

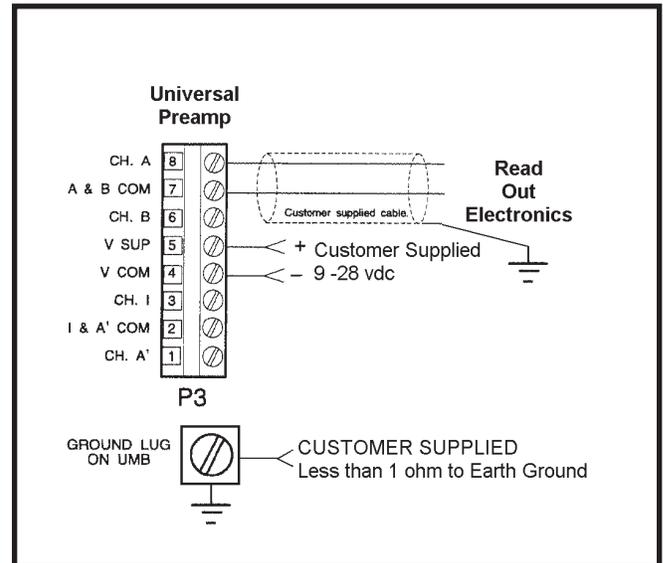


Figure 3: Model 0360 Model Code

				REV LEVEL	TYPE PULSER OUTPUT	POWER-INPUT	MOUNTING/ADAPTOR	INTERFACE/CONFIG	PREAMP CONFIG	ACCESSORIES	APPROVALS
W	X	Y	Z	B	A	B	C	D	E	F	G

W X Y Z

0360 - OPTICAL OUTPUT

B REV LEVEL

A TYPE PULSER-OUTPUT

- 0 - NOT AVAILABLE WITH THIS MODEL
- 1 - OPTICAL - 100 LINE CODE WHEEL
100/100 PUL/REV (CHANNEL A & B)
- 2 - OPTICAL - 500 LINE CODE WHEEL
500/500 PUL/REV (CHANNEL A & B)
- 3-8 - RESERVED FOR FUTURE USE
- 9 - SPECIAL

B POWER-INPUT

- A - NOT AVAILABLE WITH THIS MODEL
- B - 9 - 28 VDC

C MOUNTING/ADAPTOR

- 1 - BIROTOR CBP
- 2 - ACCESSORY ADAPTOR
- 3-8 - RESERVED FOR FUTURE USE
- 9 - SPECIAL ADAPTOR - CONSULT FACTORY

D INTERFACE/CONFIG

- A - NONE
- B - INTEGRAL BERT REGISTER (NO APPROVALS)
- C - REMOTE MOUNT ELECTRONIC REGISTER

E PREAMP CONFIG

- 0 - NOT AVAILABLE WITH THIS MODEL
- 1 - 5 V FIXED PULSE DUAL CHANNEL
- 2 - SUPPLY VOLTAGE PULSE DUAL CHANNEL
- 3 - OPEN COLLECTOR PULSE DUAL CHANNEL
- 4 - RESERVED
- 5 - 5 V FIXED SINGLE CHANNEL
(PULSE RATE DOUBLED)
- 6 - SUPPLY VOLTAGE SINGLE CHANNEL
(PULSE RATE IS DOUBLED)
- 7 - OPEN COLLECTOR SINGLE CHANNEL
(PULSE RATE IS DOUBLED)
- 8 - RESERVED
- 9 - SPECIAL: CONSULT FACTORY

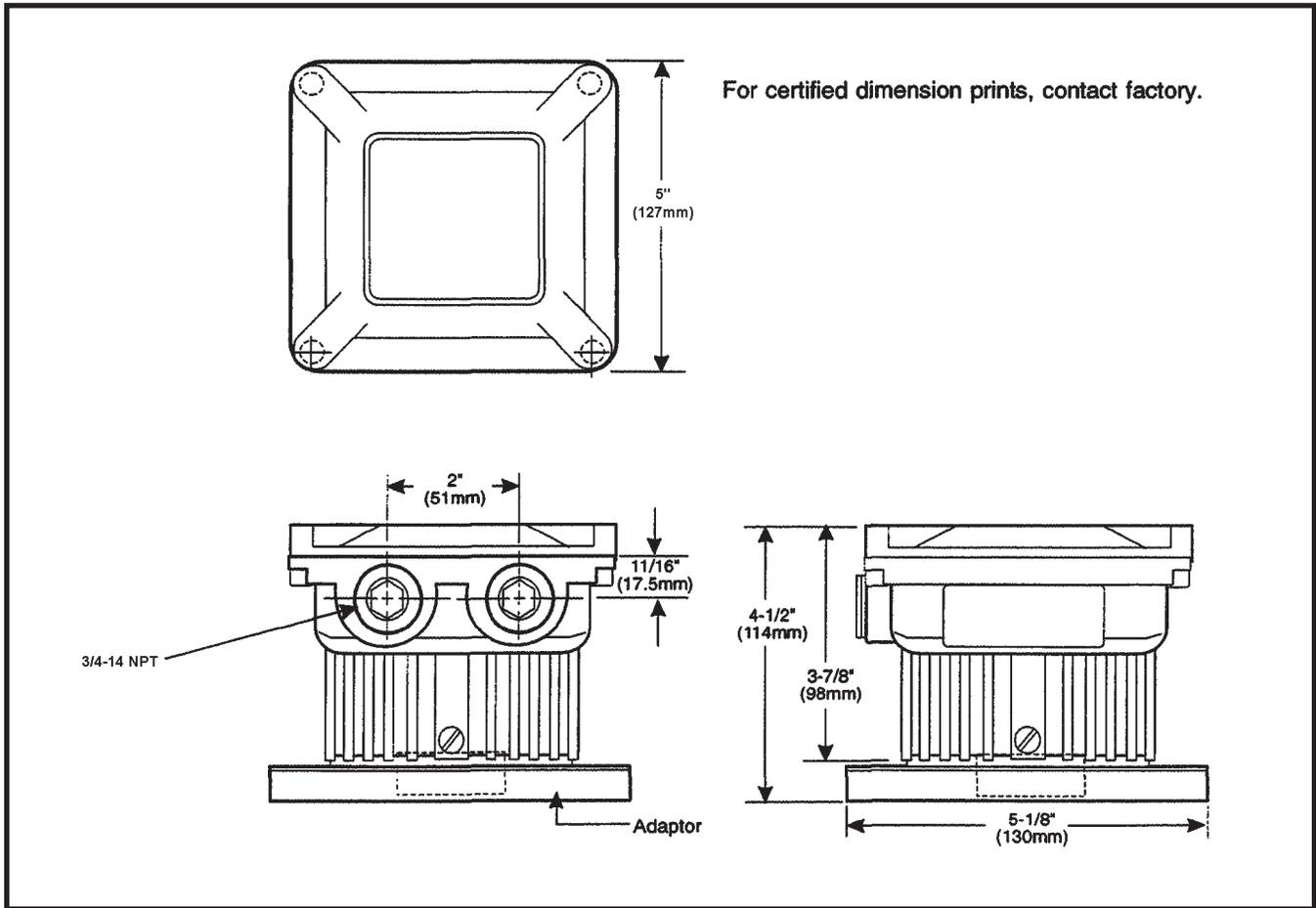
F ACCESSORIES

- A - NONE
-  B - EXTENSION 12", CBP MOUNTING ADAPTOR ONLY. REQUIRED WHEN METER MAX OPERATIVE TEMP IS ABOVE 75°C, 167°F

G APPROVALS

- 1 - NONE
- 2 - CLASS I GROUP C & D, US AND CANADA
- 3 - II 2 G EX d II B T3 - T6 ATEX
-  4 - Exd II B T3 - T6 IEC Ex
- 5-9 - RESERVED FOR FUTURE USE

Figure 4: Model 0360 Dimensions - For Certified Dimensions, Consult Factory



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