

## MODEL PSMA POWER SUPPLY & INTERFACE MODULE PROVIDES POWER FOR SENSORS & ACCESSORIES WITH SIGNAL CONDITIONING FOR INPUT TO CUB COUNTERS\* & DITAK TACHOMETERS\*



### ALLOWS CUB COUNTERS & DITAK TACHOMETERS TO OPERATE WITH:

- 2-WIRE PROXIMITY SENSORS,
- ROTARY PULSE GENERATORS,
- LOGIC MAGNETIC PICKUPS,
- MEASURING WHEEL LENGTH SENSORS,
- CLOCK OSCILLATOR MODULES,
- AND MANY OTHER SENSORS, CIRCUITS AND ACCESSORIES

\* PSMA intended for use with CUB 1, 2, and 7 Counters and Ditak 8 and 9 Tachometers.

### DESCRIPTION

Cub Counters and Ditak Tachometers are basically self-powered devices and do not have built-in capability for powering electronic sensors or accepting high level sensor outputs. The PSMA provides a convenient plug-in answer to those applications requiring electronic sensors or accessories for pulse input to Cub Counters or Ditak Tachometers.

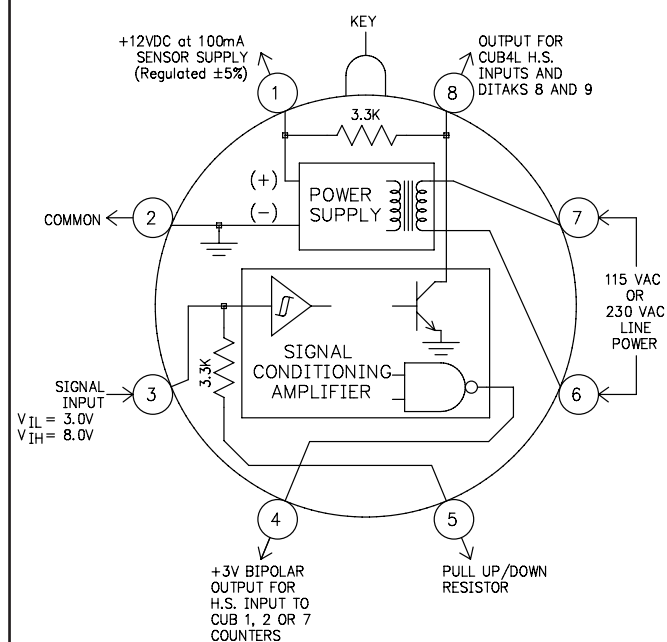
The PSMA is available in 115 VAC and 230 VAC primary power input versions, and delivers regulated D.C. voltage for sensors and accessories. The signal conditioning amplifier can accept NPN or PNP Open Collector Inputs, or 2-Wire Proximity Sensor Inputs.

The signal conditioning amplifier supplies two separate outputs, one for direct drive to the H.S. Input of Cub Counters, and the other for direct drive input to the PSM Input of the Ditak. A "pulse stretcher" is used in the circuit that provides the output drive to Cub Counters (Terminal 4). This stretcher allows the PSM to accept 50 µsec input pulses, standard on some Red Lion Controls' sensors and accessories, and expand it to the 100 µsec pulse, as required by the Cub Counters. The Ditak output (Terminal 8) is not pulse stretched, allowing this output to continue functioning to the full 10 KHz limit of the Ditak.

### SPECIFICATIONS

1. **POWER SOURCE:** 2 versions, for 115 VAC ±10% 50/60 Hz, or 230 VAC ±10% 50/60 Hz. (See Ordering Information.)
2. **POWER OUTPUT TO SENSORS OR ACCESSORIES:** 12 VDC regulated ±5%, 100 mA max.
3. **INPUT SIGNAL:** (Terminal 3) NPN Open Collector (sink), PNP Open Collector (source), or 2-wire Input. Built-in 3.3 K resistor (Terminal 5) can be jumper connected for pull-up, pull-down, or left unconnected as required. Input Schmidt trigger levels as shown on BLOCK DIAGRAM.
4. **OUTPUTS:** (Terminal 4) Bi-polar drive to H.S. Input of Cub Counters supplies 100 µsec negative going logic pulse (switches from +3 to 0 volts) in response to a trailing (negative going) edge of the input pulse. This output will drive up to 3 Cub Counters in parallel. (Terminal 8) NPN Loaded Collector to drive the input of Ditaks. The output voltage on this terminal is in phase with the input signal going into Terminal 3. The high level of this voltage will be clamped to 6.2V by the zener diode in the Ditak. This output can drive up to 3 Ditak units.
5. **OPERATING FREQUENCY:**
  - 0 to 5 KHz with Cub Counters;
  - 0 to 10 KHz with Ditaks.

### BLOCK DIAGRAM (TOP VIEW OF SOCKET)

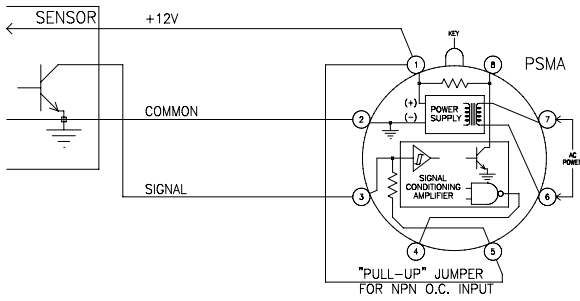


#### NOTES

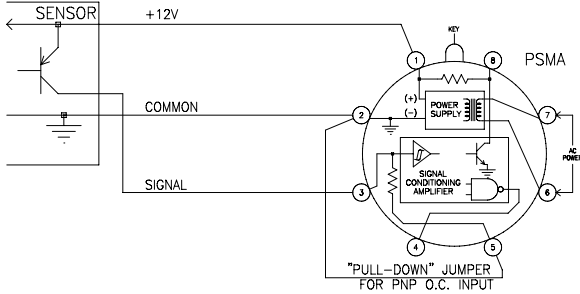
1. Inputs and Outputs are referenced to COMMON, on Terminal 2.
2. This Power Supply is regulated and cannot be parallel connected with +12 V outputs from other Red Lion Controls counters or tachometers.

# GENERAL CONNECTION DIAGRAMS

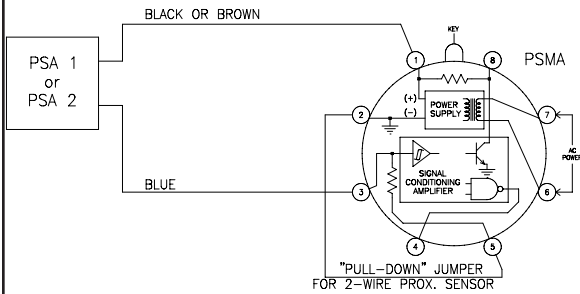
## NPN OPEN COLLECTOR SINK INPUT



## PNP OPEN COLLECTOR SOURCE INPUT



## 2-WIRE PROXIMITY SENSOR INPUT

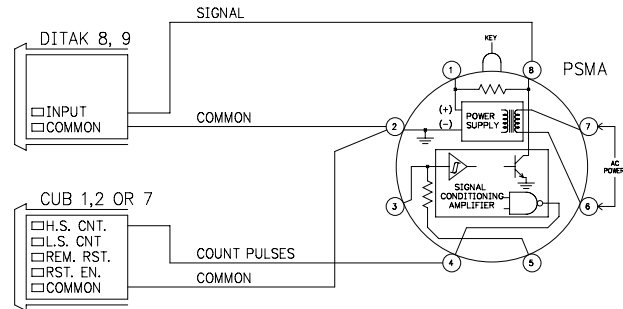


## INPUT CONNECTION TABLE FOR RED LION CONTROLS' SENSORS

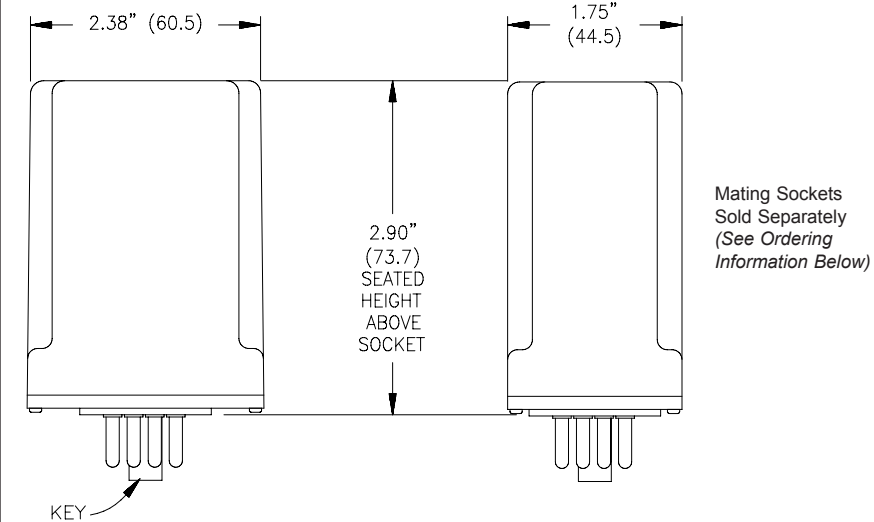
| PSMA TERMINALS   | 1 (+12V)       | 2 (COMM.)          | 3 (INPUT)  |  |
|--|----------------|--------------------|------------|--|
| <b>SENSOR OR ACCESSORY</b>   | CONNECT TO     | CONNECT TO         | CONNECT TO | JUMPER                                 |
| <b>NPN O.C. OUTPUTS</b><br>LMPC LOGIC MAG. PICKUP<br>PSAC PROXIMITY SENSOR *<br>LSC LENGTH SENSOR<br>RPGC ROTARY PULSE GEN.<br>ASTC INLINE PREAMPLIFIER<br>PSA6B, PSA7B, PSA8B | RED            | BLACK              | WHITE      | JUMPER TERM 5 TO TERM 1 ON PSMA SOCKET |
| COS1 CLOCK OSCILLATOR  | TERM #1        | TERM #2            | TERM #7/8  |  |
| <b>NPN OUTPUT W/COLLECTOR LOADED TO +12V IN SENSOR</b><br>RPGB ROTARY PULSE GEN.<br>RPGH ROTARY PULSE GEN.   | RED            | BLACK              | WHITE      | NO JUMPER CONN.                        |
| <b>2-WIRE PROXIMITY SENSORS</b><br>PSA-1 or PSA-2  | BLACK OR BROWN | NO CONN. TO SENSOR | BLUE       | JUMPER 5 TO 2 ON PSMA SKT              |

\* New PSAC: Brown = +12 V, Black = Input, Blue = Common

## OUTPUT CONNECTIONS TO CUB COUNTERS & DITAK TACHOMETERS



## DIMENSIONS In inches (mm)



## ORDERING INFORMATION

| MODEL NO. | DESCRIPTION  | PART NUMBER |
|-----------|--|-------------|
| PSMA      | Power Supply & Interface Module (less socket), 115 VAC | PSMA1000    |
| PSMA      | Power Supply & Interface Module (less socket), 230 VAC | PSMA2000    |
| -         | Base Mount, 8-Pin Octal Socket                         | SKT10000    |
| -         | Din Rail Mount, 8-Pin Octal Socket                     | SKTDIN00    |