



## **Model DATALM**

# **Monitor the Presence or Absence of Data on RS-232 or Parallel Communications Lines**

### **Description**

The DATALM is an inline communications monitoring device. It can be set to detect data or the absence of data on TD or RD on RS-232 communication lines or the strobe on parallel communications. When the alarm condition is met, an LED turns on and a relay is tripped. An audio alarm can be sounded at the same time. The alarm can be set to go off for a minimum period of time ranging from 1 second to indefinitely, but will sound until the alarm condition has ended. A reset button can be used to turn off the alarm until another separate alarm condition occurs.

### **Features**

- Monitors RS-232 pin 2, RS-232 pin 3, or parallel strobe pin 1
- Alarm triggers on presence or absence of data
- Alarm consists of an LED, relay, and buzzer
- Reset button

### **Connections**

- One DB25 male and one DB25 female connector with all 25 lines passing straight through
- Can be oriented in either direction in your system
- One relay output which is terminated in internal screw blocks for maximum flexibility
- 2.5 mm power jack

### **Setup**

#### **Monitoring Communications**

- Monitoring TD in RS-232, RD in RS-232, or strobe in Parallel is selected using JP1 and JP2.
  - JP1 selects the communications standard as RS-232 or Parallel.
  - JP2 selects which line is to be monitored. TD (pin 2) or RD (pin 3) in RS-232 or the strobe (pin 1) in Parallel.
- Whether the alarm triggers on the presence or absence of data is jumper selectable by setting both jumpers of JP3 to PRES to detect presence of data or setting both jumpers of JP3 to ABS for absence of data.
  - Presence of data is capable of detecting the strobe on the parallel port and baud rates up to & including 115.2K.
  - Absence of data is jumper selected using JP4 to require data to be missing for 4 sec, 2 min 8 sec, 4 min 16 seconds, or 34 min 8 sec before the alarm is triggered. **Note** that JP4 has no effect when triggering on the presence of data.

#### **Alarm**

- The alarm consists of an LED, relay, and buzzer.
  - When the alarm condition is met the LED turns on, the relay contacts go from NC-Normally Closed to NO-Normally Open.
  - The buzzer will sound if JP6 is set to enabled. It will not sound if JP6 is set to disabled.
- The amount of time the alarm goes off is jumper selectable using JP5 to a minimum of 1 sec, 11 sec, 100 sec, or indefinitely. If the minimum alarm time is set to indefinitely the reset button must be pushed to operate again.
- The reset button turns off the alarm until a new alarm condition occurs.
  - If the reset button is not pressed, the alarm will sound for the minimum time set or until the alarm condition has ended, whichever is longer.
  - Pushing the reset button will turn off the alarm condition regardless of the minimum alarm time or the end of the alarm condition and the alarm will remain off until a new alarm occurs.
- In the case of looking for presence of data, data must be absent 4 seconds or more for additional data to be considered a new alarm. For absence of data, the alarm condition is reset at the first sign of data.

International Headquarters:

**B & B Electronics Mfg. Co.** 707 Dayton Road P.O. Box 1040 Ottawa, IL 61350 USA  
815-433-5100 Fax 433-5104 [www.bb-elec.com](http://www.bb-elec.com) [orders@bb-elec.com](mailto:orders@bb-elec.com) [support@bb-elec.com](mailto:support@bb-elec.com)

**B & B Electronics Ltd** Westlink Commercial Park Oranmore Co. Galway Ireland  
+353 91 792444 Fax +353 91 792445 [www.bb-europe.com](http://www.bb-europe.com) [orders@bb-elec.com](mailto:orders@bb-elec.com) [support@bb-europe.com](mailto:support@bb-europe.com)

- The board is laid out to allow the user to place their own through-hole capacitor (C14) and resistor (R23) to generate a different minimum alarm time when JP5 is left unconnected. The minimum time the alarm will sound (Ta) in seconds is determined by the following equation where R23 is in kOhms and C14 is in micro Farads:

$$Ta = 1.1 * R23 * (C14 + 10) / 1000$$

**Note** that for reliable operation R23 must be 10 MOhms or less. The additional 10 μFarads in the equation above comes from C12, the capacitor currently in place. This 10 μFarads can be taken out by removing this capacitor.

### Jumper Settings

Because the DATALM monitors either presence or absence of data in RS-232 or Parallel communications, a series of jumpers must be set to perform your specific application. The following tables show how to configure the DATALM.

#### 1. Monitoring the correct line

JP1	JP2	Effect
232	TD/2	Monitors RS-232 communications pin 2 (TD)
232	RD/3	Monitors RS-232 communications pin 3 (RD)
Parallel	Strobe/1	Monitors the strobe in parallel communications

#### 2. Detecting presence or absence of data

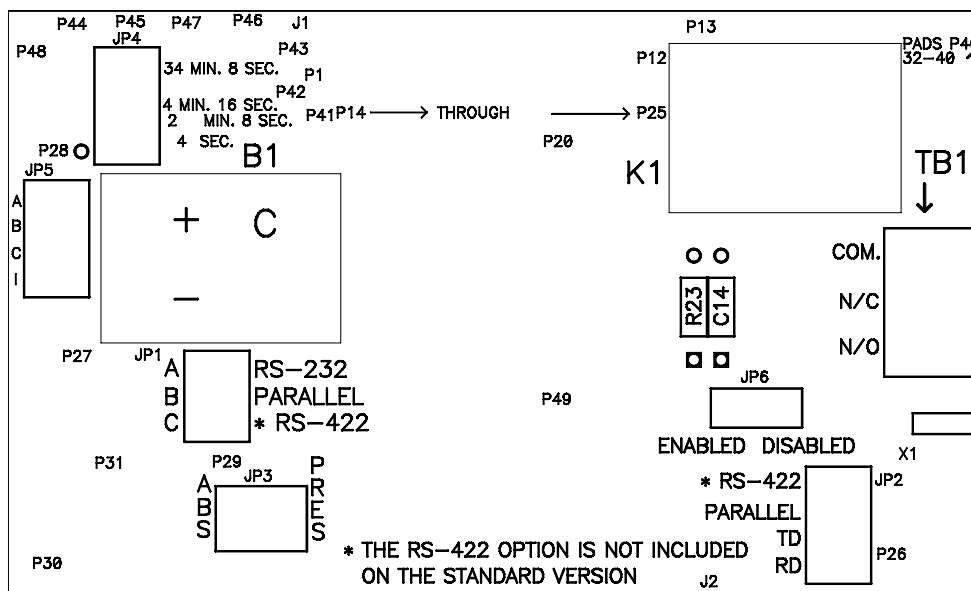
JP3	JP4	Effect
Pres	X	Alarm is triggered on the presence of data
Abs	4 sec	Alarm is triggered after data has been absent 4 seconds
Abs	2 min 8 sec	Alarm is triggered after data has been absent 2 min 8 seconds
Abs	4 min 16 sec	Alarm is triggered after data has been absent 4 min 16 seconds
Abs	34 min 8 sec	Alarm is triggered after data has been absent 34 min 8 seconds

#### 3. Minimum alarm time

JP5	Effect
A	Alarm is triggered for a minimum of 1 second
B	Alarm is triggered for a minimum of 11 seconds
C	Alarm is triggered for a minimum of 100 seconds
D	Alarm is triggered indefinitely and must be reset to trigger again

#### 4. Turn the buzzer on or off

JP6	Effect
Enabled	Buzzer sounds when the alarm is triggered
Disabled	Buzzer does not sound



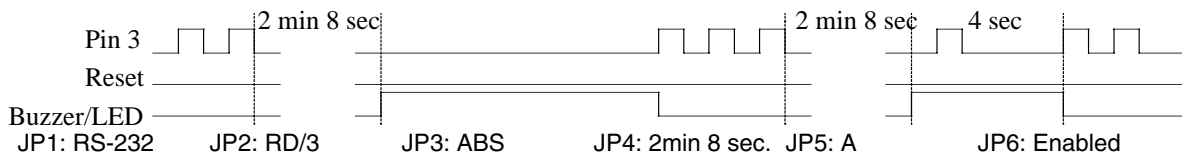
International Headquarters:

**B & B Electronics Mfg. Co.** 707 Dayton Road P.O. Box 1040 Ottawa, IL 61350 USA  
815-433-5100 Fax 433-5104 [www.bb-elec.com](http://www.bb-elec.com) [orders@bb-elec.com](mailto:orders@bb-elec.com) [support@bb-elec.com](mailto:support@bb-elec.com)

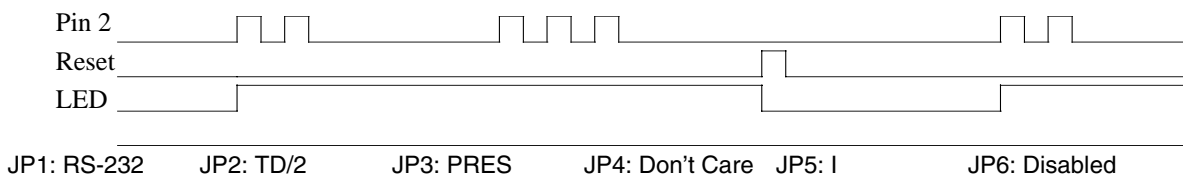
**B & B Electronics Ltd** Westlink Commercial Park Oranmore Co. Galway Ireland  
+353 91 792444 Fax +353 91 792445 [www.bb-europe.com](http://www.bb-europe.com) [orders@bb-elec.com](mailto:orders@bb-elec.com) [support@bb-europe.com](mailto:support@bb-europe.com)

**Examples**

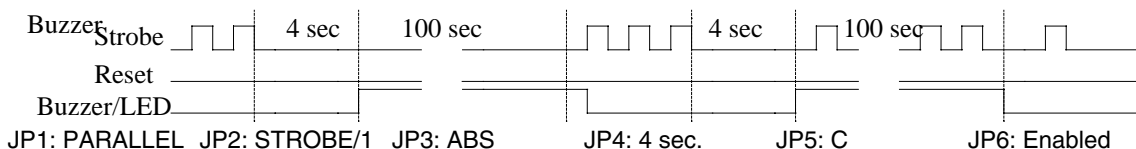
- The buzzer sounds when data is lost on pin 3 of an RS-232 port for 2 minutes 8 seconds and shuts off as soon as data is received again. The minimum time the alarm sounds is 1 second.



- A silent alarm goes off every time data is seen on pin 2 of an RS-232 port and stays on until the reset button is pressed.



- The buzzer sounds when the parallel port stops sending data for more than 4 seconds and turns off as soon as it sends data again. The minimum time the alarm sounds is 100 seconds.



**Specifications**

**Relay Output**

Number of Channels: 1 Electromechanical Relay  
 Relay Ratings:  
     Contact (standard): 10A @ 120VAC  
                             8A @ 30VDC (resistive)  
     Max. switching capacity: 1200VA/240W  
     Max. operating voltage: 250VAC/125VDC  
     Max. carrying current: 10A (AC), 8A (DC) – standard  
     Min. permissible load: 100 mA @ 5 VDC  
 Relay Form: Form C, Single-Pole Double-Throw (SPDT)  
 Relay Life (load dependent): 100 thousand operations minimum

**Buzzer**

Sound Pressure: 75 dB (A) @ 2 ft.

**Power Supply**

Input Voltage: 11 to 16 VDC  
 Input Current: 80 mA maximum  
 Connection: 2.5 mm power jack

**Communications**

Standards: RS-232 or Parallel (Compatibility, Nibble, Byte/Bi-directional, and ECP)  
 Baud Rate (Serial Mode): Up to 115.2K baud  
 Connection: One DB25 female and one DB25 male  
 Lines Passed Through: All 25

**Environment**

Operating Temperature: 0 to 45°C (32 to 113°F)  
 Operating Humidity: 35 to 80% non-condensing  
 Storage Temperature: -10 to 50°C (14 to 122°F)  
**Size** 1.32H x 2.40W x 4.60L (3.35H x 6.09W x 11.68 cm)

International Headquarters:

**B & B Electronics Mfg. Co.** 707 Dayton Road P.O. Box 1040 Ottawa, IL 61350 USA  
 815-433-5100 Fax 433-5104 [www.bb-elec.com](http://www.bb-elec.com) [orders@bb-elec.com](mailto:orders@bb-elec.com) [support@bb-elec.com](mailto:support@bb-elec.com)

**B & B Electronics Ltd** Westlink Commercial Park Oranmore Co. Galway Ireland  
 +353 91 792444 Fax +353 91 792445 [www.bb-europe.com](http://www.bb-europe.com) [orders@bb-elec.com](mailto:orders@bb-elec.com) [support@bb-europe.com](mailto:support@bb-europe.com)