

*DRAFT*



## TriggerPad TP -100/105

### DESCRIPTION:



**Rugged wireless remote control is within reach. Matric's TriggerPad family of handheld transmitters are ideal for many material handling and process control applications such as jib cranes, sifting grates, slurry barges, and belt controls.**

TriggerPad handhelds are pocket sized operator control stations that provide long switch life, one hand operation, and extended battery life. With a typical range of 300 feet and a rugged molded enclosure, the TriggerPad is right at home on the plant floor, in a quarry, or in your tool belt.

Consult our online catalog for the latest models and features in the TriggerPad family of handheld transmitters.

## **FEATURES:**

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- Sealed handheld enclosure
- Range of 300 feet
- License free radio (FCC Part 15B)
- One month battery life (typical)
- 1 million cycle sealed pushbuttons
- Easy one hand operation
- Custom labeling available

## **APPLICATION:**

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***Please Note: The TriggerPad 100/105 is not intended for use as an emergency stop device.***

The TriggerPad 100/105 is a transmit on command device. Data is transmitted from the TriggerPad only when a button is being pressed by an operator. CRC data error checking and data message identifiers are used to insure that transmitted data is correctly received and interpreted. The transmit on demand feature results in extended battery life (up to 1 month in most applications). However, without a continuously maintained communication link, the TriggerPad is not appropriate for applications that require a handheld shutdown for emergency or safety purposes.

A system level risk assessment should be performed before any new control application is installed.

## **SPECIFICATIONS:**

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- 8 bit controller with 2K flash and CPU watchdog
- 3 AA batteries give 1 month operation (32 hours continuous)
- 900MHz one way radio with 8 channels
- Operational range of 0 - 300 feet
- Internal antenna to prevent damage
- Sealed enclosure
- Operational temperature range of 0°C to +70°C
- Storage temperature range of -40°C to +85°C
- 2.75 inches X 1.375 inches X 7 inches, 12.5 oz
- Mechanical tactile switches with 1,000,000 cycle switch life
- Eight button membrane switch available with 2 digit LED (TP-105)
- Optional belt clip and custom labels available
- CRC data error checking

# CONFIGURATION:

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## ***Label***

There are several standard label configurations available for the TriggerPad, each geared to a typical TriggerPad application. If your application requires a unique label, our engineering staff can create a custom label according to your specifications. Please refer to the TriggerPad configuration sheet to select an off-the-shelf label or to specify a custom label.

## ***Radio Channel Configuration***

The TriggerPad supports eight channels to avoid interaction when multiple systems are employed in close proximity situations. The radio channel can be configured at the factory prior to shipment or by a customer's technician in the field. See the configuration sheet to specify a channel for factory configuration.

Channel	Frequency
0	903.37 MHz
1*	906.37 MHz*
2	907.87 MHz
3	909.37 MHz
4	912.37 MHz
5	915.37 MHz
6	919.87 MHz
7	921.37 MHz

\*Factory default channel selection

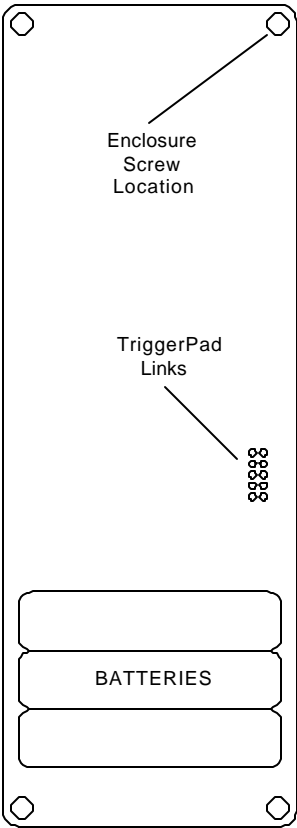
For safety reasons, on site radio channel configuration requires the following basic steps.

1. Power down and lock out any systems that could be operating at the frequencies shown above.
2. Set the TriggerPad channel. (See instructions below.)
3. Set the channel of the ProComm. (Refer to the appropriate receiver user manual, i.e. ProComm 100, for receiver configuration.)
4. Return processes and equipment to service.

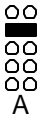
Please note, to avoid accidentally duplicating channels, it is recommended that the default channel NOT be used in a multi-station application.

The following procedure will select the appropriate TriggerPad channel for use with any applicable Matric receiver.

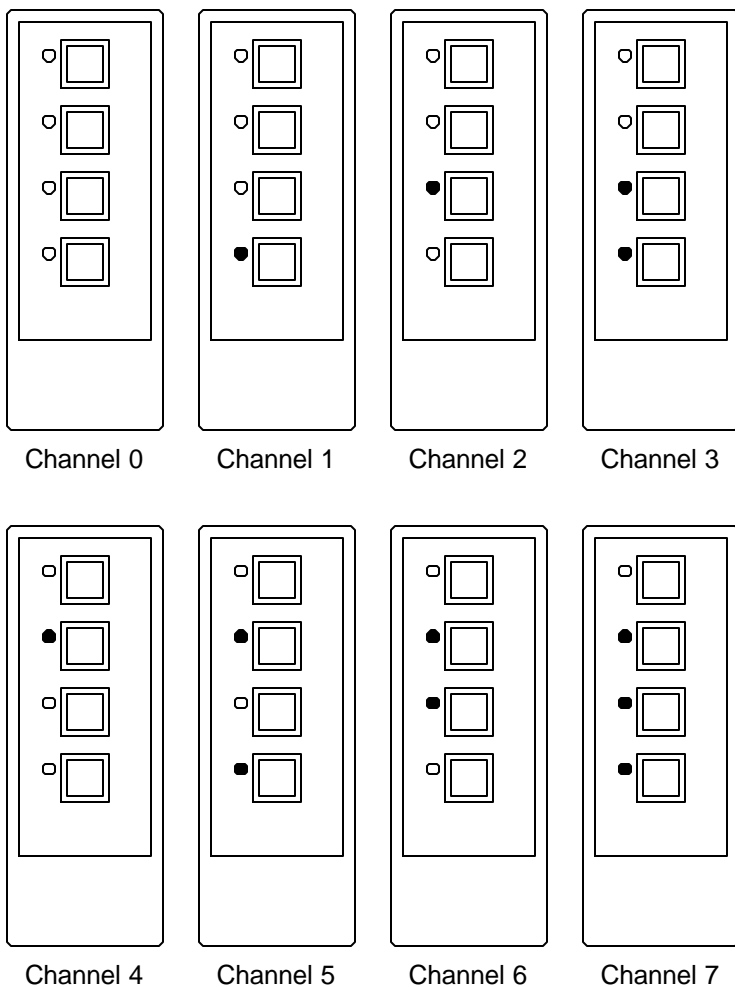
1. Disconnect the associated receiver from power and field wiring. Also, disable any other devices that could be inadvertently activated by the TriggerPad during this process.
2. Remove the four corner screws and open the back of the TriggerPad. See diagram below.



3. Remove batteries.
4. Install channel setting link to position A as shown below.



5. Install batteries. Note polarity on circuit board under batteries.
6. The current channel will be displayed on the LED indicators on the front of the TriggerPad. Press and release the top button to cycle through channels until the desired channel is displayed. See the diagram below to interpret channel numbers.



7. Remove the channel setting link and replace the cover. The TriggerPad is now ready for operation.

## **INDICATORS:**

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The TriggerPad 100 provides 4 red LED indicators. One LED is located beside each button. These LEDs serve three functions.

First, the LED next to a button will be illuminated when the button is depressed. This is hardwired visual feedback that the button has been activated. However, the active button indicator does not show the status of data transmission.

Second, when no buttons are depressed, the top LED will blink to indicate a low battery condition.

Third, the LEDs are used to indicate the selected channel. See the configuration section for details of channel selection.

The TriggerPad 105 provides a two digit seven segment LED display. This display is used to set the one byte value that is transmitted with the switch status from the TP-105. To change the value, press the "Enter" switch while pressing either the up or down arrow.

## **BATTERIES:**

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The TriggerPad 100/105 uses three standard AA batteries. Depending upon usage, these batteries should provide up to one month of operation. A low battery power state will be indicated by a blinking LED as described in the indicator section.

To replace batteries, simply remove the four corner screws, open the back half of the enclosure, replace the batteries, and reassemble the enclosure. The correct battery polarity is marked under the battery clips.

## **PLACEMENT:**

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The TriggerPad 100/105 is an FSK radio transmitter that operates in the 902-928 MHz band. Eight channels are provided for separation in adjacent applications. Multiple transmitters may be active on separate channels so long as an adjacent channel's signal does not enter the receiver at a level exceeding the rejection capability of the receiver. The effective rejection capability of the receiver is dependent upon RF factors that vary from application to application. The rejection capability in a particular application may be determined through trial and error or through a comprehensive site assessment.

A site assessment should be performed before any new radio system is introduced into an operating environment where there are potential safety hazards. A thorough site assessment of an area will discover active radio frequencies that could lead to contention and their sources. Matric can arrange a site assessment at a customer's request.

For optimal performance, the TriggerPad should be operated in the most visible line of sight from the receiver antenna.

## **APPROVALS:**

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The TP-100/105 has been tested and found to comply with the limits for an intentional radiating device, pursuant to Part 15 of the United States FCC Rules. Changes or modifications not expressly approved by Matric could void the user's authority to operate the TP-100/105.

**Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.**



***Matric***

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