NEW M1030-E Series Tonnage Monitor for just $1500, + Sensors

2 Sensors (expandable to 4) in one small panel Mount 7.25"x5.5"x5.9"

Tonnage Sensors with 4-20 mA Output

Built-in Sensor Integrity Check detects Broken Sensor Wires

Alarms for Quality, Die, Press

Normally "OFF", "ON" if fault conditions occurs

Compare ON/OFF Mode

Displays "ON", comparison of reference profile os active

Collect Mode

Displays "ON" indicates "Collect Mode"

Setup Mode

Displays "ON" indicates "Setup Mode"

Windows to Display Tonnage

Windows display Tonnage values in Ton1, Ton2, Ton3, Ton4

$1500

Mode Key

This key is used to switch **from one programming/** viewing mode to the other

INC and DEC Keys

These keys are used to **increment/decrement** numerical values or to **toggle between multiple** choices for an option

Enter Key

Enter value into memory or to activate start for learn or reset for counter

→ Key

Switch between sub modes or options

Cost Effective Tonnage Monitor to Protect Press and Dies from Over & Under Tonnage

Programmable Load Monitor, Mini PLM M1030-E from Autotech, is one of the best investments in tools for a press. It offers an economical entry into the Press Load Monitoring.

The Low Cost M1030-E measures Load or Tonnage on a press by using strain gages mounted on load bearing members, such as press columns. The M1030-E compares the measured load against user programmed limits for Press Protection, Die Protection and for Process Trend.

If the measured load is outside the programmed limits, Mini PLM de-energizes the appropriate fail-safe relay that can be used to stop the press, warn the operator and/or signal supervisor control.

The Mini PLM uses strain gauge sensor with built-in amplifier for tonnage measurement. The sensors provide current signals proportional to tonnage. This makes wiring of sensors very easy. The user does not have to worry about length of wires or splitting of wires.

The Mini PLM has two counters for counting total number of hits, as well as the number of good pairs made. A part is considered good if it did not cause any alarm or fault during stamping.

Positive Tonnage Press Limit

This limit is programmed by the user in Tons. The unit de-energizes “Positive Press Limit” relay when measured tonnage exceeds the limit. This limit is set around the rated tonnage of the press and intended to protect the press from overload. This limit comparison cannot be disabled.

Negative Tonnage Press Limit

This limit is programmed by the user in Tons. The unit de-energizes “Negative Press Limit” relay when measured tonnage exceeds the limit. This limit is intended to protect the press from reverse or snap-through tonnage. This limit comparison can be disabled.

Die Protection Band

The Die Protection Band is created by programming limits around a “reference” tonnage. The reference tonnage is automatically learned by the Mini PLM during unit setup. This unit measures the maximum tonnage in each press cycle and averages over a programmed number and hits. The average tonnage is considered as reference. The Mini PLM maintains a reference for each installed sensor. User programs positive and negative deviation around this reference to create a die protection band.

Process Trend Band or Limits

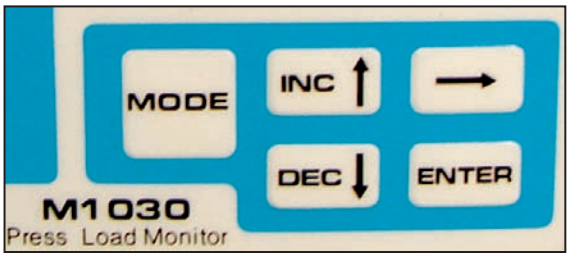
The process Trend Band functions similar to Die Protect band, EXCEPT that the reference tonnage for process trend band, called Process Trend band, is not fixed at the time of setup.

Modes

On the M1030-E, each display is considered to be a different mode. The detailed descriptions of the modes, displays, key responses are described in the Display Modes Reference. This list in the overview section refers to modes described in the reference section.

Key Pad

The M1030-E has five simple keys for programming as well as operation of the unit. Response to key strokes in different modes is described in the Display Modes Reference.



Detailed Specifications

Power Input: 105-135VAC, 50/60Hz. 2SW
Operating Temperature: -10° F to 130° F
Tonnage Sensors: Autotech's SAC-MI030-SEN strain gage sensor providing 4-20 mA signal for tonnage (Existing strain gages may be used with Autotech's SAC-MI 030-SENA amplifier)
Number of Sensors: 2
Strain gauge element: 1 m/V @400 micro-inch/inch
Sensor Mounting: Weld pad mount or drill mount
Number of Counters: 2, Total # of Hits, % of Good

CONTROL INPUTS:

Electrical characteristics:

TRUE: Contact Closure to VO (term # 15 on TB5) or 11-28VDC input

FALSE: Open or <0.8VDC input

Program Enable: Input must be TRUE to change any value
Supervisory 1 & Supervisory 2: Supervisor inputs tor access control
Fault Reset: When TRUE, resets all faults
Position reference Input: A FALSE to TRUE transition signifies end of a press cycle

PROGRAMMABLE LIMITS:

6 limits for each installed sensor.
The limit comparisons can ho selectively disabled, except for Positive Tonnage Press Limit.

Positive Tonnage Press Limit: Programmed in Tons for Press Overload Protection, can not be disabled.
Negative Tonnage Press Limit: For Snap through or Reverse tonnage protection can be disabled.
Die Protect Band: Defined by Die Protect High & Low Limits: Both limits programmed as *deviation from Reference Tons*. Either in Tons or in percent of reference ton value (choice is programmable); Comparison can be disabled.
Number of Reference Storage: 10
Process Trend Band: Defined by Process High A low Limits: Both Limits programmed as *deviation from Process Base Tons*. Either in Tons or in percent of the Base tons. Comparison can be Disabled (Process Base Tonnage is the running average of tonnage measured over last several cycles; number of cycles for averaging is programmable).

OUTPUTS:

4 Field replaceable Electromechanical relay outputs; All outputs fail safe (The NO Relay contact closed under safe conditions, and open under fault conditions)
Relays Specifications: 120 VAC © 10 Amp Resistive, SPST

Output Relay	*Output Relay De-energizes if...*
Positive Tonnage Press Limit	Measured Tonnage Exceeds Positive Tonnage Press Limit
Negative Tonnage Press Limit	Measured Tonnage Exceeds Negative tonnage Press 1 limit
Over Die/Process Limit	Measured tonnage is Greater than Die and/or Process High Limit
Under Die/Process Limit	Measured Tonnage is Less than Die and/or Process Low Limit

M1030-E Tonnage Monitor

Tonnage Monitor - M1030-E

Standard unit with 2 channel without tonnge sensors

M030-E Features

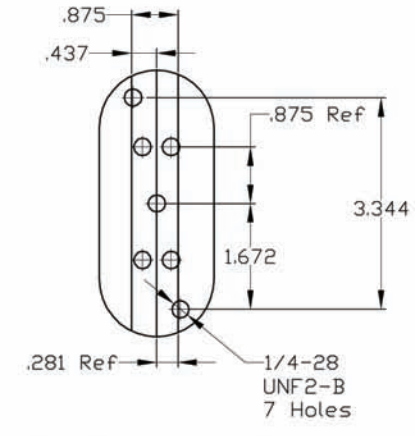
- Learn Mode to automatically compute reference Tonnage
- Built-in sensor integrity check
- Programmable Trend Limits
- Programmable Over & Under limits for Die, Process & Press Protection
- Protection from Reverse/Snap thru Tonnage
- 2 Counters, 10 Programs

Part Number	Description	Price
STM-M1030-PE2	Standard Unit with 2 channel without Tonnage sensors	***$1500***

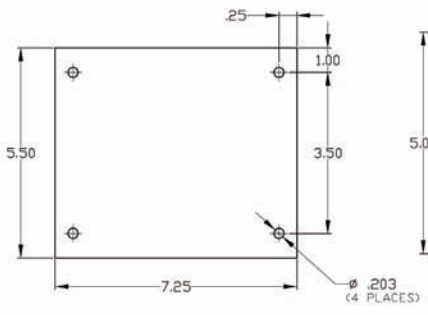
Note: For Part Numbers and Price of individual components, cables & accessories, strain-gauge sensors & amplifiers, and other product variations such as additional PLM outputs ***CALL THE FACTORY***

The M1030-E Tonnage monitoring System is expandable to have 4 PLM outputs

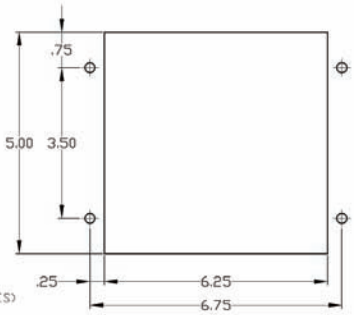
M1030 unit with cut-out, side and front dimensions



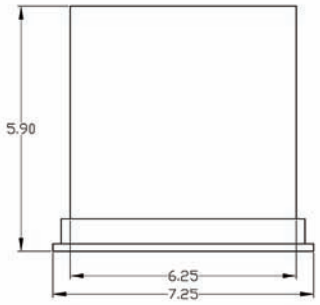
SENSOR MOUNTING DIMENSION
OVERALL DIMENSIONS
4" x 2.125" x 1.875"
WITH 1/2" CONDUIT



M1030-E FRONT VIEW



PANEL CUTOUT
FOR M1030-E



M1030-E TOP VIEW