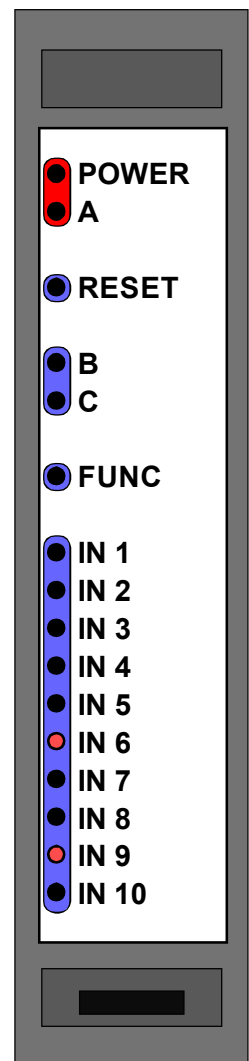


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10 channel pulse input production line monitor LineLogger

Connection details and general information



Software version F00.01

Document Ref:pm65\manuals\ Revision:2 Dated: 6 September 2019

Warranty

We warrant this product against defects in materials or workmanship for a period of three (3) years from the date of purchase.

In the event of a defect during the warranty period, the unit should be returned, freight (and all duties and taxes) prepaid by the Buyer to the authorised distributor from where the unit was purchased.

The Distributor, at its option, will repair or replace the defective unit. The unit will be returned to the Buyer with freight charges prepaid by the distributor.

LIMITATION OF WARRANTY

The foregoing warranty shall not apply to defects resulting from:

1. Improper or inadequate maintenance by the buyer.
2. Unauthorised modification or misuse.
3. Operation outside the environmental specification of the product.
4. Mishandling or abuse.

The warranty set forth above is exclusive and no other warranty, whether written or oral is expressed or implied. We specifically disclaim the implied warranties of merchantability and fitness for a particular purpose.

EXCLUSIVE REMEDIES

The remedies provided herein are the buyer's sole and exclusive remedies.

In no event shall we be liable for direct, indirect, incidental or consequential damages (including loss of profits) whether based on contract, tort or any other legal theory.

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* Need a manual urgently?
You can download manuals from our website

Warnings

Please carefully read this manual and all warnings. Install the meter ONLY when you are sure that you've covered all aspects.



Where the product is intended for "UL" installations, removal or addition of option boards is not permitted.



Check that the model number and supply voltage suit your application before you install the meter.



Connect the meter according to current IEE regulations, IEC61010 & NFPA:70 National Electric Code in USA.



This meter is for Installation class II service only. This means it has exposed electrical and power terminals. You must install it in a suitable fire enclosure which will also protect users from electric shock



We designed this meter for Pollution-Degree 2 environments only.



Power supplies to this equipment must have anti-surge (T) fuses rated at 2A for DC supplies in the range 11-30VDC.



Don't touch any circuitry after you have connected the meter, because there may be lethal voltages on the circuit board.



Only adjust on-board switches or connections with the power turned off



Make sure all screw terminals are tight before you switch the meter on.



Only clean the unit's front with a soft damp cloth. Only lightly dampen with water. Do not use any other solvents.

**Safety FirstDon't assume anything..... Always double check.
If in doubt, ask someone who is QUALIFIED to assist you in the subject.**

Introduction

Please contact us if you need help, if you have a complaint, or if you have suggestions to help us improve our products or services.

If you contact us about a product you already have, please tell us the full model number and serial number, so that we can give you accurate and fast help.

This product has a 3 year warranty. We will put right or replace any meter which is faulty because of bad workmanship or materials. This warranty does not cover damage caused by misuse or accident.

If you return a unit for repair, you must fill in the RMA form on our website, please include a detailed description of the problem, and the name of a contact who we can refer to for any questions. Please mark for the attention of the QA Department.

IMPORTANT

If this equipment is important to your process, you may want to buy a spare to cover possible failure or accidental damage in the future.

This is because during factory shutdown periods, you may have to wait several weeks for an equivalent replacement, or we may have no stock at the time you urgently need it.

You may also need to pay extra carriage charges if you want a fast, guaranteed courier service. Warranty repairs or replacements are usually returned with a standard courier service.

We do not offer compensation for losses caused by failure of this instrument.

We always try to improve our products and services, so these may change over time. You should keep this manual safely, because future manuals, for new designs, may not describe this product accurately.

We believe these instructions are accurate, and that we have competently designed and manufactured the product, but please let us know if you find any errors.

General Description

The line logger accepts logic inputs from such devices as pushbuttons, relays, PNP or NPN proximity sensors, 24V PLC pulses etc.

The main function of this series is to detect pulses in a production line environment, either to count product, report the status of any particular part of the system, detect operator pushbutton status etc.

IMPORTANT:

You must clearly specify your requirements when ordering, so we can configure the unit(s) to suit your application before we ship. for example, if you need to combine multiple units on one RS485 bus, tell us so we can assign suitable device addresses for you.

The LineLogger collects these various signals to transmit the information via RS485 to an interrogating device such as a PC data collection service, for posting to a cloud databses, overhead display etc.

The device is powered from 11-30V DC and has a pair of 2 pin power connectors to allow for daisy-chaining.

These devices are designed to mount into a protective enclosure which will protect users from contact with power and signal wiring. The module will clip onto 35mm top hat DIN rail directly.

These units must be installed fully assembled, and must be installed according to local electrical installation rules.

Safety



Caution: There is a risk of electrical shock if this instrument is not properly installed



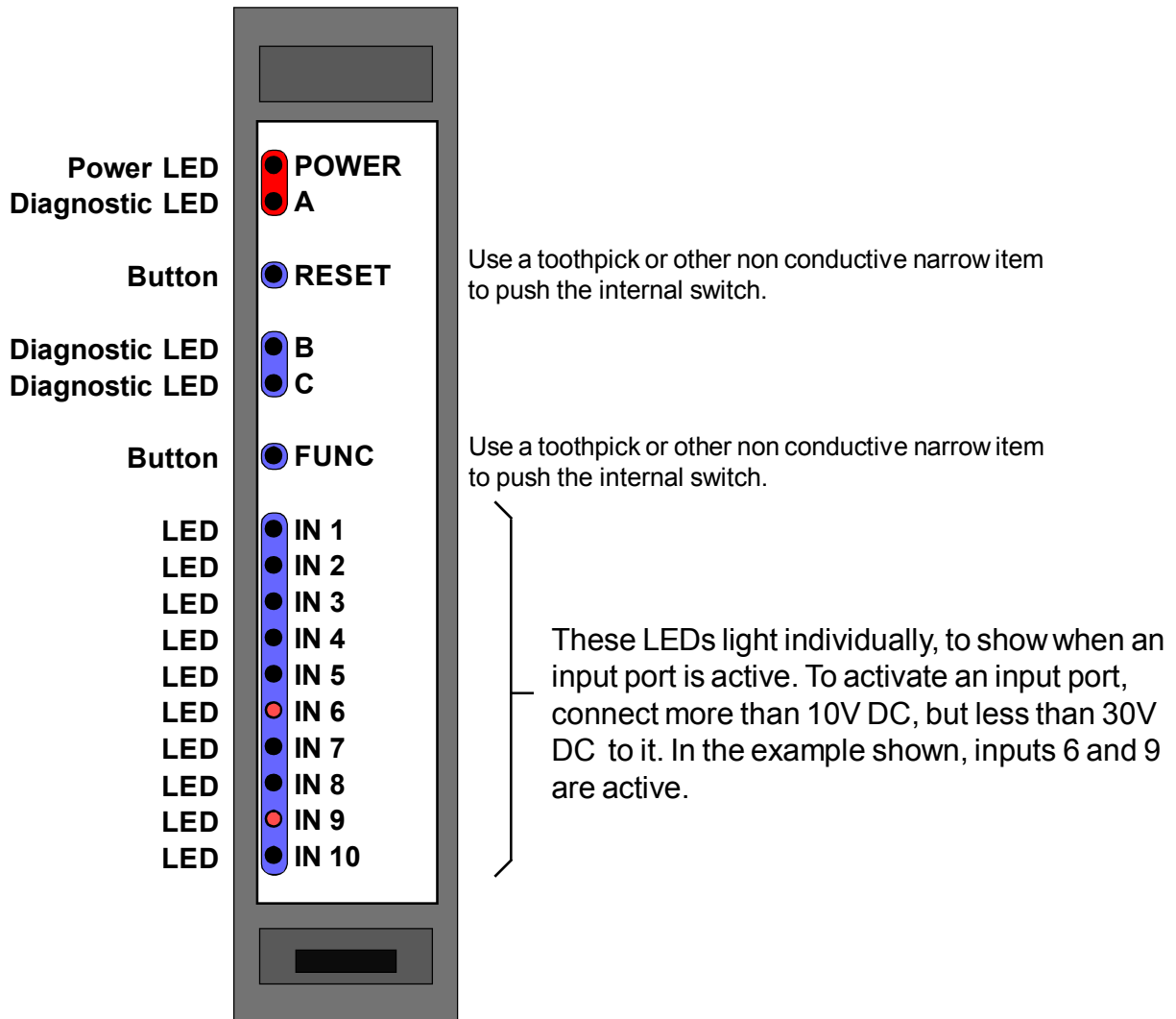
Caution: Risk of danger: Read the whole manual before you install this meter

Obey all safety warnings in this manual, and install the meter according to local wiring and installation regulations. Failure to follow these guidelines may cause damage to the meter, connected equipment, or may be harmful to personnel.

Any moving mechanical device controlled by this equipment must have suitable access guards to prevent injury to personnel if the meter should fail.

This device should not be used in safety critical systems.

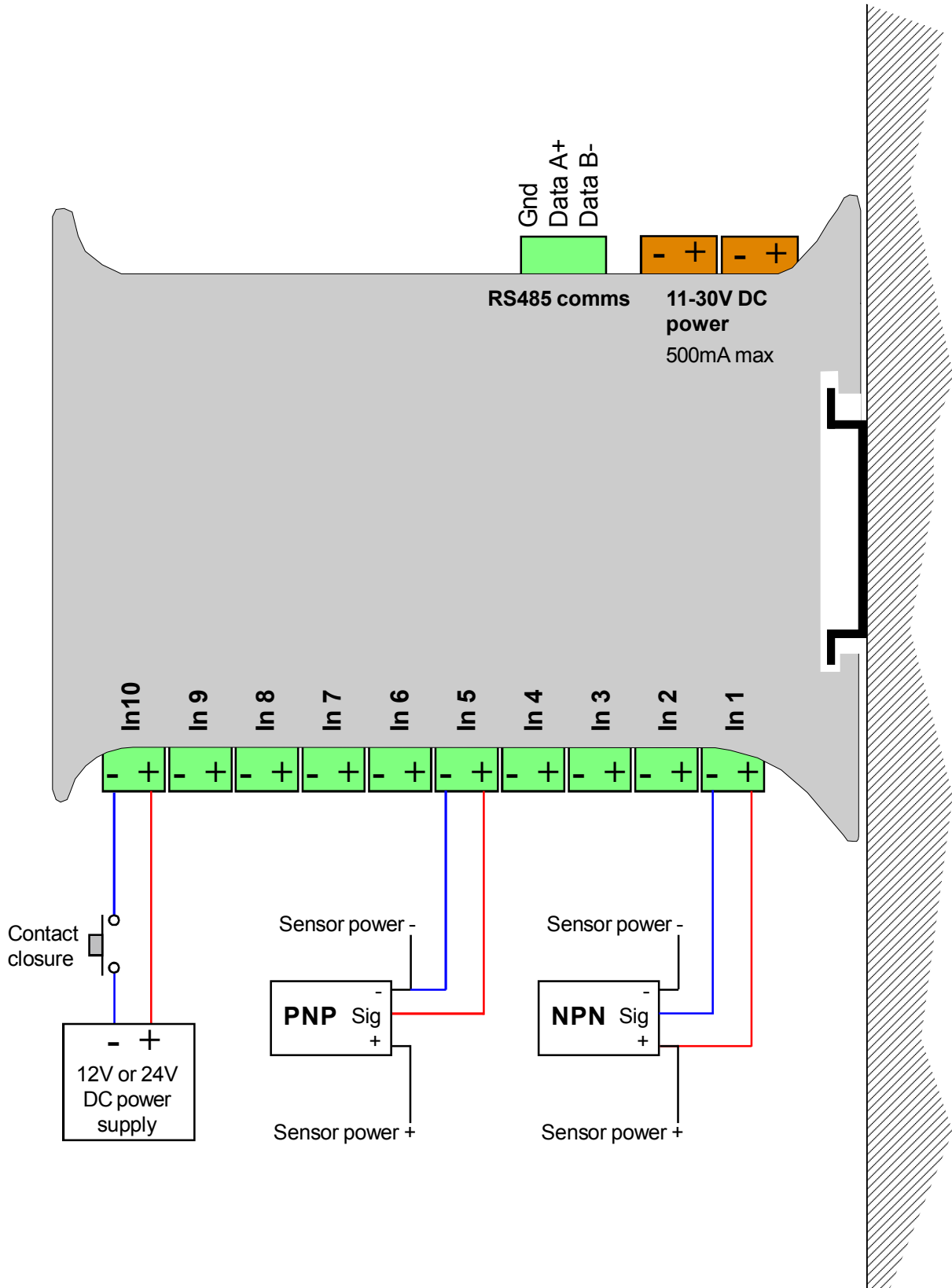
Front Panel Functions



Diagnostic LED A will flash if the internal temporary backup storage is not available.
Diagnostic LEDs B and C are assigned different functions depending on the application.

Reset Button will clear any temporary memory.
Function Button will act according the particular application chosen.
Details are provided as an addendum, with each unit.

Connections



Examples of connections for different sensor types. All 10 input ports are identical, so can accept NPN, PNP or contact closures in any required combination. Power for the signal inputs must be provided.

Example application

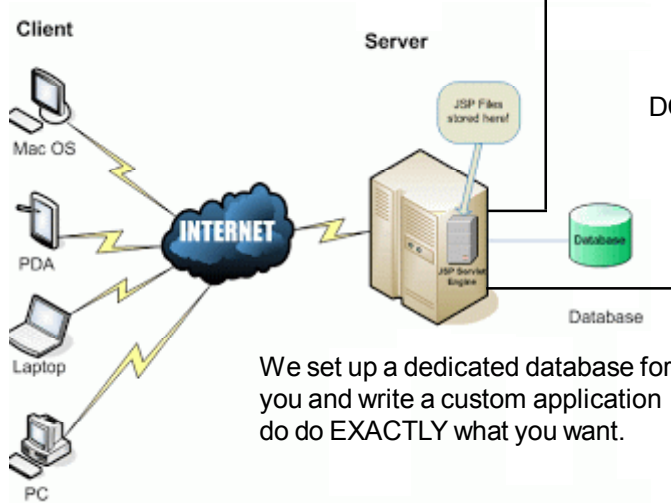
Large Overhead Display sealed IP65
Custom made for each application.

Production Line 6 Performance

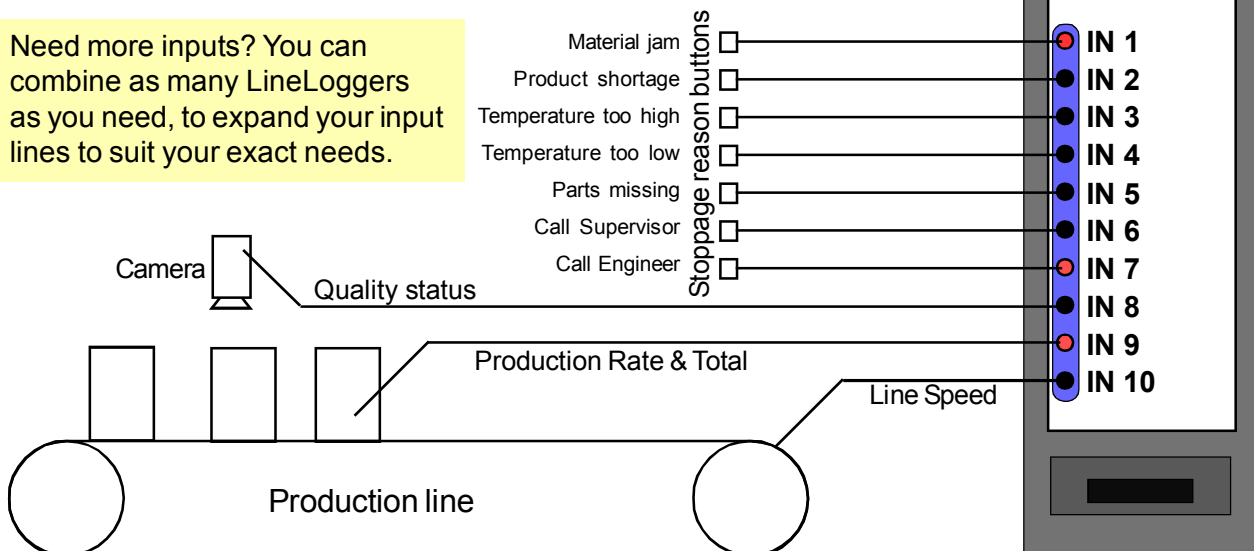
Production Target	250000
Items per hour now	31278
Items per hour Avg	32446
Total This shift	220803
Total Downtime	00:16:54

Material Jam - Engineer to line 6

View your production line status from anywhere in the world. Set targets, view graphs, make decisions. Real time and historic information, giving you the power to act now!



Need more inputs? You can combine as many LineLoggers as you need, to expand your input lines to suit your exact needs.



Equipment Specifications

Power Voltage	11-30V DC . 2A maximum surge current when first switched on, while electrolytic capacitors charge. 300mA maximum after that whilst running.
Input Signals	10-40V as standard (with internal sensitivity selection link open) Can accept NPN, PNP, contact closures, 24V DC, 12V DC pulses Current draw at 12V = 2 mA Current draw at 24V = 6 mA
RS485 Modbus	The Line Logger uses RS485 38400, 8, N, 1 and the protocol is MODBUS ASCII. The live status of the ten inputs is available in register 0x1002. This is read using MODBUS command 03. All input states are available in the one word result. Bit 0 represents input 1 up to bit 9 for input 10. The bit is set when current is passing through the opto-coupled input and the front panel LED is on. You can also view the accumulated non-volatile count totals for each input of the 10 inputs. These are stored as 32 bit values in a pair of ModBus registers per channel. We recommend www.simplymodbus.ca/ascii.htm as a very helpful resource on understanding the comms between an application and a modbus device such as our LineLogger See also https://www.codeproject.com/Articles/20929/Simple-Modbus-Protocol-in-C-NET-2-0 which has some handy code samples.
Response speed	Minimum duration of input pulse = 2mS
Dimensions	25mm wide, 100mm high, 120mm front-back.
Environmental rating	Must be mounted in a clean, dry panel. 35mm DIN rail mounting.

Record of Revisions

12 August 2013
6 August 2019

Product released
Rev 2 Manual released

Declaration of CE Conformity

Declaration Reference : LineLogger
Issue Date : 12 August 2013
Products Covered : Line Logger series
Title : DOC-LineLogger

This is to confirm that the Product covered by this declaration has been designed and manufactured to meet the limits of the following EMC Standard :

EN61326-1:1997

and has been designed to meet the applicable sections of the following safety standards

EN61010-1:2001



Conditions

The meters are permitted a worst case error of 1% of A/D range during electro-magnetic disturbance, and must recover automatically when disturbance ceases without the need for human intervention, such as resetting, power-down etc.

The meters covered by this certificate must be installed in adherence to the following conditions :-

Signal cabling shall be routed separately to power carrying cabling (includes relay output wiring)

All signal cabling shall be screened. The screen shall only be terminated to the power earth terminal at the meter end of the cable.