



**MLP5, MLP4 & XLP1**  
Motorised Level Monitor  
& Power Supply/Interface

## What it Does

- Accurately determines point level of solids, powders, liquids etc.
- Operates within a wide range of ambient conditions to cover a comprehensive range of applications.

## Product Description

The MLP5/MLP4 is a Motorised Point Level Monitor. Its microcontroller instructs the motor to rotate 1.3 revolutions each cycle while checking the drive shaft rotation. An electromagnetic clutch system is designed to slip when the rotating shaped probe is obstructed by any product ranging from large aggregate to very fine powder such as fly ash. When this occurs the output switches. The only user adjustment (a Normal – Failsafe switch) sets the state of the output. MLP4 is DC powered and includes low power isolated solid-state output contacts.

The MLP5 is AC powered. For other AC applications or high power relay outputs, the XLP1 interface is required with the MLP4. The XLP1 provides a regulated 24 volt DC supply to power the MLP4, an alarm relay to drive an external alarm system (eg. audible or visual alarm), plus terminal blocks for connection to an external controller.

## Modes of Operation

The MLP5 and MLP4/XLP1 system has two basic operational settings which control the ALARM function;

### Normal

- Alarm and relay outputs are active only when probe stalls.

### Failsafe

- Alarm and relay outputs are active only when probe is not stalled, (which could indicate low product level).
- Alarm is generated when probe stalls (contact open).
- Alarm is generated on wiring fault or power failure.

## Operational Range

- Suitable for a wide range of level monitoring applications.
- Ambient temperature -20°C to 60°C (-4°F to 140°F)
- 100kPa (15psi) max vessel gas pressure.
- Insertion temperatures 80°C (176°F) maximum.
- Humidity 0-80% non-condensing.

## Benefits

- Accurate level monitoring of solids and powders.
- Operates from and switches low voltages and, therefore, poses no inherent safety problems.
- Easy installation and setup.
- Minimal maintenance.

## Features

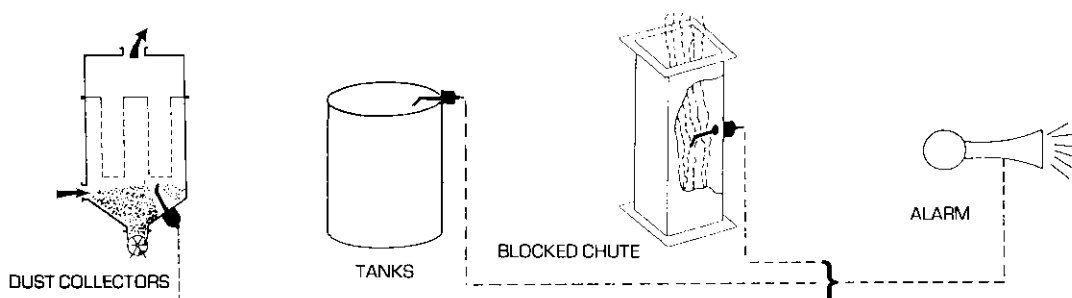
### MLP5/MLP4

- Easy mounting and optional 'Quick Disconnect' adaptor.
- EMC and LVD directive compliant.
- Robust design for hostile environments.
- PLC and electro-mechanical relay outputs.
- Anti-Jam algorithm frees obstructed probe.
- Anti-Rat-Hole algorithm backfills pockets in soft powdery material.
- One piece AC powered system (MLP5 only)

### XLP1

- Power supply voltage range of 100 to 240 VAC for worldwide application.
- PLC interface via alarm, heartbeat and AUX connections.
- Power relay with voltage free contacts.
- Alarm simulation to test external systems.

## Typical Applications



## Instrument Specifications

### MLP5/MLP4

Enclosure Rating: IP66/NEMA 4  
 Enclosure Size:  $\varnothing 88 \times 130$ mm long  
 ( $\varnothing 3\frac{1}{2}$ " x  $5\frac{1}{4}$ "")  
 Enclosure Material: Aluminium/Stainless Steel  
 Mounting: 1" BSPT female required on vessel  
 Power Supply: 18-32VDC at 300mA max (MLP4)  
 100-220VAC (MLP5)

### XLP1

Enclosure Rating: IP66/NEMA 4  
 Enclosure Size: 130mm wide x 94mm high x  
 57mm deep ( $5\frac{1}{8}$ " x  $3\frac{3}{4}$ " x  $2\frac{1}{4}$ "")  
 Enclosure Material: Non-corrosive plastic composite  
 Mounting: 4 holes 115mm x 79mm  
 ( $4\frac{9}{16}$ " x  $3\frac{1}{8}$ "")  
 Power Supply: 100-240VAC 50/60Hz

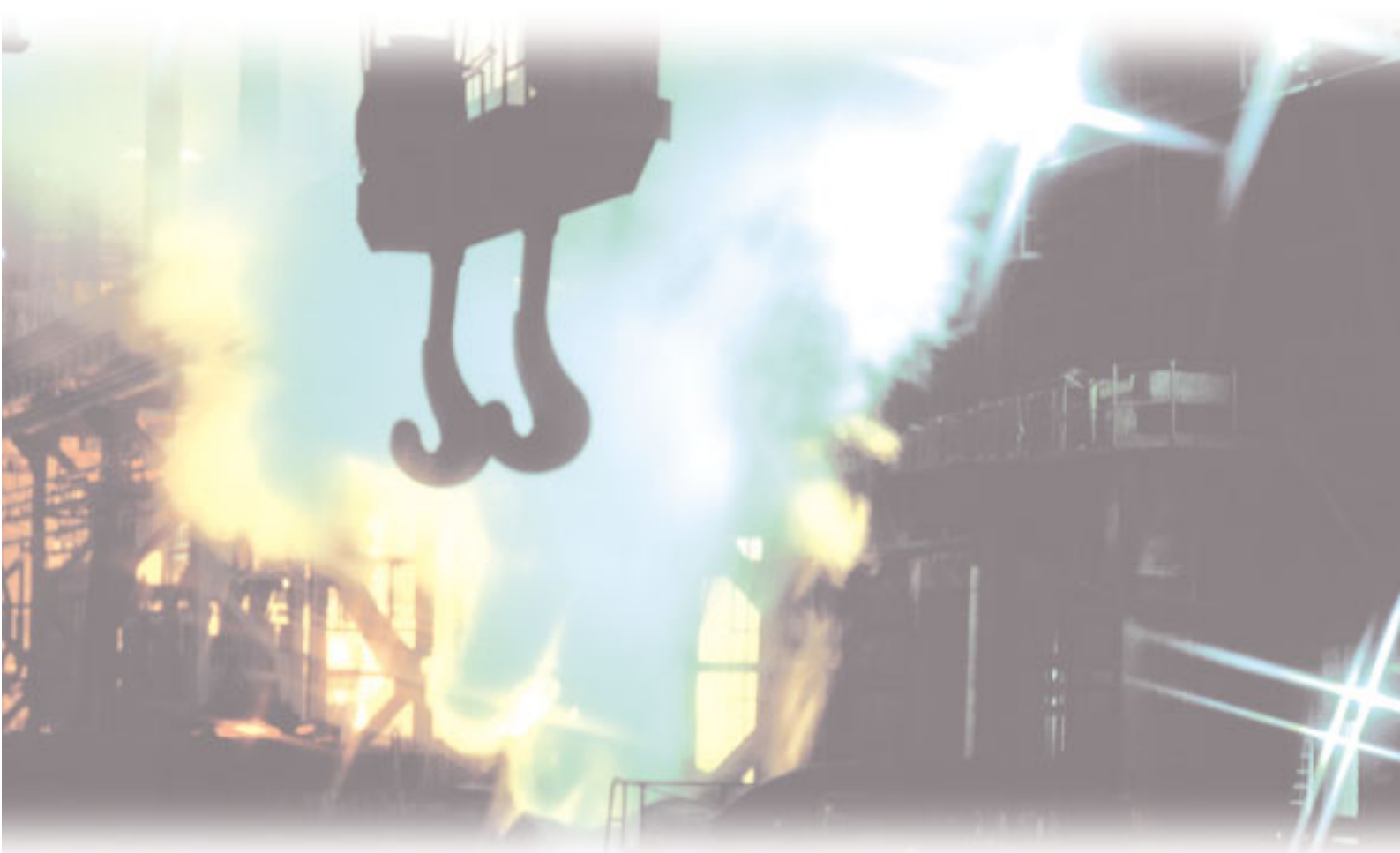
## Functions

Indicators: LEDs for Power and Relay activity

### MLP5/MLP4 Connections

EXT+V: To PLCs + 24VDC I/O supply rail  
 AUX: Opto-isolated test input from PLC or manual switch  
 HBT: Heartbeat diagnostic output to PLC  
 ALARM: Alarm output to PLC  
 RELAY: Controls alarm relay in the XLP1 power supply





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