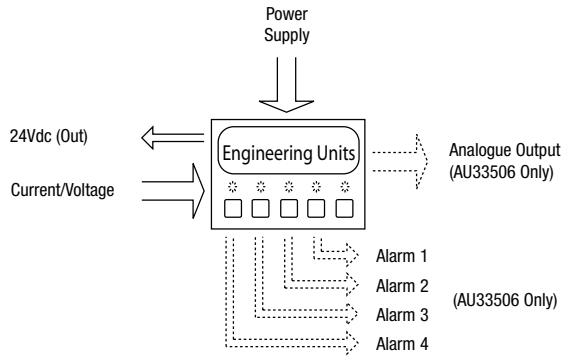


eLINE PPD

Operating Instructions



Operation

The eLINE PPD is a panel mount, digit indicator for current or voltage signals. It shows the input measurement in any chosen engineering unit using bright, 14mm high, LED digits. Model AU33506 is fitted with four alarm channels and analogue output for more complex applications.

Reviewing the setup

For review mode, press the **PGM** and **ENT** keys simultaneously. Press the **▼** key to move through the setup sequence (see table). Greyed items are not shown in review mode. Note: A 10s timeout applies for review mode.

Maximum/Minimum recall function

PGM and **▼** recalls the minimum value for 5s. **PGM** and **▲** recalls the minimum value for 5s. Release the **PGM** key first for reliable operation. To reset either value press **ENT** while it is still on display.

Clearing tripped alarms

You can acknowledge a tripped alarm by simply pressing the key for that channel.

Siren and Group alarms

Channel four has two additional alarm types:

- Siren alarm, which you clear by acknowledging all tripped alarms
- Group alarm, which will only clear when you have acknowledged all tripped alarms *and* all the trip conditions have cleared (and are outside the deadband)

Displaying the alarm setpoints

To check a setpoint, simply press the key for that alarm. If the display shows **R 4 - 5** or **R 4 - 9** when you press the alarm channel four button, you know it is set up as a siren or group alarm.

Adjusting the alarm setpoints

To change a setpoint, press the **PGM** key while the value is still on display. You will then be able to change the value using the arrows and save the change using the **ENT** key. Note that setpoint security must be disabled for this to work.

Installation

Caution: In order to meet product safety requirements, these units must only be installed, by qualified staff, in accordance with the information given in this manual, using the mounting clips and terminal blocks supplied, and all relevant national electrical wiring and safety rules must be followed.

Locate the instrument in an area that is free from dust, moisture and corrosive gases. Do not cover the ventilation holes at the side of the case.

Sensor power supply

The 0V rail of the 24Vdc sensor supply is internally connected to the input circuit 0V rail.

Input signal cable

Twisted pair cable should be used for the input signals. Voltage signals need the additional protection of shielded cable if used over any distance.

Power Supply Requirements

Check the power supply against the model number before applying power to the instrument. eLINE PPD displays must be used with a suitable mains Power Supply, ratings are as follows:

| Voltage Range | Nominal Voltage | Power | Frequency |
|------------------------|-----------------|-------------|-----------|
| 90–275Vac / 90–300Vdc* | n/a | 17 VA 7W | 47–63Hz |
| 18–35Vac / 18–50 Vdc* | 24 Vdc | 12VA 8 W | 47–63Hz |

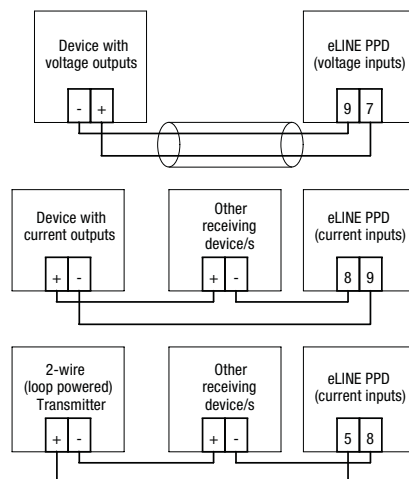
Connections

For effective protection from electromagnetic noise, all signal cables must be shielded, or located on conductive trays or in conduits.

Use 12-28AWG Cu Wire rated for temperatures above 70°C Only, tighten to 4.5lb-in. Strip wires to 7mm from the ends. Use a suitable ferrule for multistranded wires (do not solder).

Connections

| Terminal | Signal | | |
|----------|---------------------------------|------------------------------------|------------------------|
| 1 | Neutral (-) | High voltage power supply | 90-275Vac or 90-300Vdc |
| 2 | Live (+) | | |
| 3 | Live (+) | Low voltage power supply | 12-50Vac or 18-35Vdc |
| 4 | Neutral (-) | | |
| 5 | Sensor supply + / Security Link | | Inputs |
| 6 | Security Link | | |
| 7 | Voltage Input + | | |
| 8 | Current Input + | | |
| 9 | Input - / 0V | | |
| 10 | Not connected | | |
| 11 | Normally Open | Alarm Channel One (AU33506 only) | |
| 12 | Common | | |
| 13 | Normally Closed | | |
| 14 | Normally Open | Alarm Channel Two (AU33506 only) | |
| 15 | Common | | |
| 16 | Normally Closed | | |
| 17 | Normally Open | Alarm Channel Three (AU33506 only) | |
| 18 | Common | | |
| 19 | Normally Open | Alarm Channel Four (AU33506 only) | |
| 20 | Common | | |
| 21 | Output + | Analogue output (AU33506 only) | |
| 22 | Output - | | |



Instrument Setup

For setup mode, connect the security link and press **PGM** and **ENT** keys simultaneously. The software version will be displayed. If you wish to continue, press **ENT** within 10s.

| Setting | Display | Description | ▼ | ▲ | ENT |
|--|--|--|----------|------------|----------------|
| S/W Version | u 1.0 1 | S/W Version 1.01 (Note: this information only applies to versions 1.00 to 1.09) | | | |
| Display and Inputs | | | | | |
| Display Brightness | L 0 0 r H 1 8 r | Low brightness High brightness | | Toggle | Accept |
| Input format | i P = 1 i P = E | Current (mA) Voltage (V) | | Toggle | Accept |
| | i P L = 4 0 0 | Input range lower limit e.g., 4.00mA | - Dec | - Inc | Next Accept |
| | i P H = 2 0 0 0 | Input range upper limit e.g., 20.00mA | - Dec | - Inc | Next Accept |
| Damping factor | d F = 2 | Introduces the damping factor Value, e.g., 2 | - Dec | - Inc | Next Accept |
| Linearisation | L 1 n r 5 r | Linear Square root | | Toggle | Accept |
| Display range | d P = . | Decimal point position | | - Shift | Next Accept |
| | d L 0 = 0 0 | Display range lower limit e.g., 0.0 | - Dec | - Inc | Next Accept |
| | d H 1 = 1 0 0 0 | Display range Upper limit e.g., 100.0 | - Dec | - Inc | Next Accept |
| Analogue outputs* | | | | | |
| Analogue output select | A 0 P y A 0 P n | Enabled Disabled (Select this option for eLINE PPD) | | Toggle | Accept |
| Analogue output range | O P L = 4 0 0 | Output low value e.g., 4.00 | - Dec | - Inc | Next Accept |
| | O P H = 2 0 0 0 | Output high value e.g., 20.00 | - Dec | - Inc | Next Accept |
| Note: if you change the output range you must calibrate the outputs. | | | | | |
| Output action | O P = d O P = r | Direct Reversed | | Toggle | Accept |
| General Alarm settings* | | | | | |
| Alarms 1 & 2 Select | A 1 2 y A 1 2 n | Enable Disable (Select this option for eLINE PPD) | | Toggle | Accept |
| Alarms 3 & 4 Select | A 3 4 y A 3 4 n | Enable Disable (Select this option for eLINE PPD) | | Toggle | Accept |
| Setpoint security | S E C y S E C n | Setpoints fixed at setup Can change setpoints | | Toggle | Accept |
| Alarm reset sequence | n 0 r r E 5 | Automatic reset Manual reset | | Toggle | Accept |
| Note: alarm settings are only shown if the relevant alarm channel is enabled. | | | | | |
| Alarm channel one settings* | | | | | |
| Coil energisation | A 1 n E A 1 n d | Normally energised Normally de-energised | | Toggle | Accept |
| Alarm type | A 1 = L A 1 = H | Low type (active below setpoint) High type (active above setpoint) | | Toggle | Accept |
| Setpoint value | S P 1 = 5 0 0 0 | Setpoint value e.g., 50.00% | - Dec | - Inc | Next Accept |
| Deadband value | d b 1 = 0 0 1 | Deadband value e.g., 0.01% | - Dec | - Inc | Next Accept |
| Timer delay | d L 1 = 2 0 | Timer delay (set to 0s to disable) e.g., 20s | - Dec | - Inc | Next Accept |
| Alarm channel two settings* | | | | | |
| As alarm channel one, except uses A 2 n E, A 2 n d, A 2 = L, A 2 = H, S P 2 =, d b 2 = and d L 2 =. | | | | | |
| Alarm channel three settings* | | | | | |
| As alarm channel one, except uses A 3 n E, A 3 n d, A 3 = L, A 3 = H, S P 3 =, d b 3 = and d L 3 =. | | | | | |
| Alarm channel four settings* | | | | | |
| Coil energisation | A 4 n E A 4 n d | Normally energised Normally de-energised | | Toggle | Accept |
| Alarm type | A 4 = L A 4 = H A 4 = 9 A 4 = 5 | Low type (active below setpoint) High type (active above setpoint) Group alarm Siren alarm (manual reset mode only) | | Toggle | Accept |
| Note: for group or siren alarms, the setpoint, deadband and timer settings are skipped | | | | | |
| Setpoint value | S P 1 = 5 0 0 0 | Setpoint value e.g., 50.00% | - Dec | - Inc | Next Accept |
| Deadband value | d b 1 = 1 0 0 0 | Deadband value e.g., 10% | - Dec | - Inc | Next Accept |
| Timer delay | d L 1 = 0 | Timer delay (set to 0s to disable) e.g., no delay | - Dec | - Inc | Next Accept |
| Calibration options | | | | | |
| Calibrate Input? | E 1 P n E 1 P y | Skip input calibration Calibrate inputs | | Toggle | Accept |
| Calibrate Output? | E 0 P n E 0 P y | Skip output calibration Calibrate outputs | | Toggle | Accept |
| Save values | S R u E | Instrument is saving the changes to the setup and returning to normal operation | | | |
| *Note: Alarms and Analogue outputs are fitted to the AU33506 only. You can still set values for the alarms and analogue output on the eLINE PPD but they will only affect the display and status leds. | | | | | |

During setup the ▼ and ▲ keys change values and toggle options. The **ENT** key accepts changes and moves to the next item in the setup sequence (see table).

Note: if you remove the security link during the setup sequence, any changes you have made will not be saved.

Input Calibration

General

The eLINE PPD series instruments are factory calibrated. You can change the input range without calibration, but the outputs are calibrated for the specific range given during the setup procedure.

Equipment requirements

- A suitable current or voltage source

Terminal Connections for input calibration

| Calibration Stage | Signal type | Terminal |
|---------------------|---------------------|----------|
| Current (mA) inputs | Milliamp source (+) | 8 |
| | Milliamp source (-) | 9 |
| Voltage (V) inputs | Voltage source (+) | 7 |
| | Voltage source (-) | 9 |

Procedure

| When the display shows | Action/Description |
|------------------------|--|
| | Put the instrument in setup mode and scroll through the main menu |
| E 1 P n | Press ▲ or ▼ |
| E 1 P y | Press ENT to select input calibration |
| i = | Connect the current source and press ENT |
| 0 0 0 | Set the current source to 0.00mA and press ENT |
| i = | Press ENT |
| 2 0 0 0 | Set the current source to 20.00mA press ENT . Wait while the input value is processed. |
| E = | Connect the voltage source and press ENT |
| 0 0 0 | Set the voltage source to 0.00V and press ENT |
| E = | Press ENT |
| 1 0 0 0 | Set the voltage source to 10.00V press ENT . Wait while the input value is processed. |
| E 0 P n | Continue with the setup sequence. |

Note: To discard changes to calibration and setup you can remove the power at this point.

Output calibration (AU33506 only)

Analogue Output Setup

1. Enter setup mode. Then remove the security link, press **ENT** and then replace the link. The display will show a single digit (normally 1).
2. Press **ENT** again. The display will show **O P = i** (for current outputs) or **O P = E** (for voltage outputs). Use ▲ to select the value you require, then press **ENT** to accept. Continue through the setup mode. Note: you will be required to calibrate the outputs (so follow the procedure below).

Equipment requirements

- An accurate digital multimeter (accurate to 0.05mV and ±0.1µA)

Terminal Connections for output calibration

| Calibration Stage | Signal type | Terminal |
|-------------------------|-------------|----------|
| Analogue Current Output | mA output + | 21 |
| | mA output - | 22 |
| Analogue Voltage Output | V output + | 21 |
| | V output - | 22 |

Procedure

Note: the procedure below shows calibration for the commonly used 4-20mA format. Expect different values for other formats.

| When the display shows | Action/Description |
|------------------------|--|
| | Put the instrument in setup mode and scroll through the main menu |
| E 0 P n | Press ▲ or ▼ |
| E 0 P y | Press ENT to select output calibration |
| i = | Connect the multimeter to measure the output current, then press ENT |
| 4 0 0 | Press ENT Measure the output signal Adjust the output (using the ▲ or ▼ keys) until the output is at the value shown When you are happy that the output is correct, press ENT |
| 2 0 0 0 | Press ENT Measure the output signal Adjust the output (using the ▲ or ▼ keys) until the output is at the value shown When you are happy that the output is correct, press ENT |
| S R u E | Continue with the setup sequence. |

Note: Do not remove the power while the save message is on display.

Find more information online at www.burkert.com.au or contact our sales support team on 1300 888 868.