



RS485 LED Display Unit (LDU)

(12-Way Smart Display and 8-Way Display)

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ISO 9001: 2000

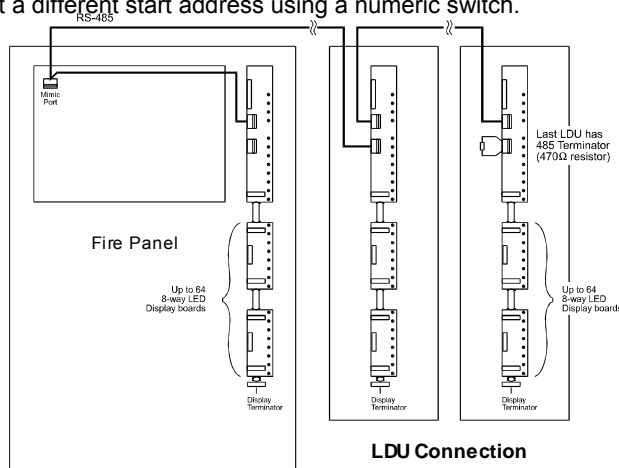
International Standards
Certifications
QAC/R61/0051

Product Overview:

Pertronic Industries **LED Display Unit (LDU)** is a fire alarm panel repeater / mimic that allows the status of a fire alarm panel to be displayed remotely by LEDs.

Standard Features:

- A 12-way LED Display control board displays 4 global indicators (**Sprinkler, Fire, Defect and Normal**) plus 8 LED Zone indicators.
- Additional 8-way display boards expand the number of LEDs, which may be displayed: up to 512 for **F120A** systems, 255 for **F100A** systems and 64 (32 'Fire' plus 32 'Smoke Only' circuits) for **F16e** or **F16** panels.
- 24Vdc (**F120A, F100A** or **F16e** panels) or 12Vdc (**F16** panel) option available.
- The display boards may be installed within a fire panel for local indication, or may be mounted in a selection of separate customised cabinets for remote indication of the panel status.
- An optional auxiliary power supply is available, if required.
- Communication is performed via the four-wire RS485 **MIMIC** port of the panel (one twisted pair for the RS485 S/R data lines plus one pair for the DC power supply).
- Up to 8 polled **LDUs** may be connected to the **MIMIC** port on an **F100A** or **F120A** panel. **F16** and **F16e** are limited to 3 **LDUs**.
 - additional non-polled (slave) **LDUs** may be connected to the **MIMIC** port .
 - the outputs may be pulsed (addresses 1-9) to drive LEDs or unpulsed (addresses 10-15) to drive relays.
 - There is a maximum limitation of 32 devices.
- Control inputs and outputs are provided.
 - Polled **LDUs (LDU addresses 1 to 8)** have 6 control inputs, which may be passed to the panel.
 - **Silence Alarms; Evacuate and Acknowledge (Buzzer Silence)**
 - **Door Switch; Door Interlock and External Defect.**
 - the control board has 4 outputs that activate when **Evacuate, Silence Alarms (BCO), Buzzer ON, or Bells** are activated at the panel.
 - each indicator LED has an additional output (pull down to 0V through a diode when the LED is activated) for use by ancillary equipment.
 - The output may be pulsed (flashing LED) or steady
 - a **Door Interlock** causes a defect or fault to be transmitted if the cabinet door is closed when ancillary devices are 'Isolated' or 'Off-Normal'.
- Optional ancillary equipment is available:
 - the first zone LED of the display is set at LED Address 1. The optional 'RS485 LED Address Controller' board may be used to select a different start address using a numeric switch.
 - the 'Zone Off-Set' board fits into the data chain between the driver board and terminator. It adds an offset to the previous and all subsequent board LED addresses using a numeric switch.
 - the 'LED Display Relay' board contains 8 non-latching relays that correspond to LED position numbers in the display.
 - the '48-Way Open-Collector' board provides a cost effective solution to control large numbers of LEDs and/or Relays



Product Codes:

Description	Product Code	
12-Way Smart Display and Control Board, PCB Only	F100PDB12	
8-Way Display Board, PCB Only	F100PDB	
RS485 LED Address Controller (LAC)	LAC485	
LED Address Controller (LED Offset) Board	LAC12W	
8-Way Display Relay Board	F100ZDRLY	
48-Way Open Collector Output Board	8WOC-RLY	
Slim Mini Mimic: Front Service / Rear Service	SLCABMPFS	SLCABMPRS
Slim Standard Mimic: Front Service / Rear Service	SLCABL PFS	SLCABLPRS
Slim Extra Large Mimic: Front Service / Rear Service	SLCABELFS	SLCABELRS
Slim Mini Mimic: Front Service / Rear Service	SLCABMPFS	SLCABMPRS
Mimic Cable Internal: 0.5mm 1Pr / 0.2mm 2C, 250m Drum	SGDCI	

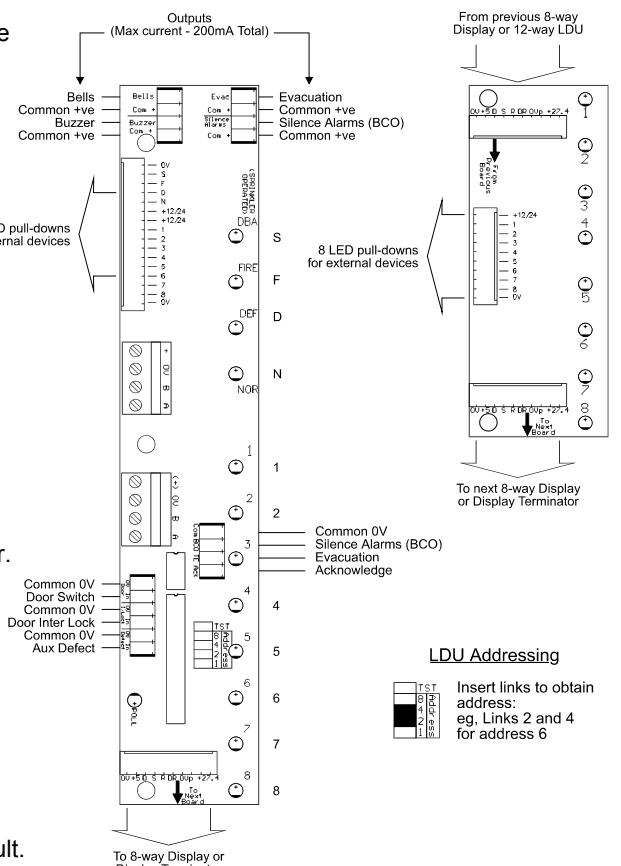
Specifications:

- **Dimensions:**

12-way Smart Display Board	32 (1 x 32) LEDs	197 x 38	L x W mm
8-Way Display Board		96 x 38	L x W mm
Slim Mini Cabinet	64 (2 x 32) LEDs	426 x 438 x 50	H x W x D mm
Slim Standard Cabinet	96 (3 x 32) LEDs	616 x 438 x 50	H x W x D mm
Slim Extra Large Cabinet	16 (1 x 16) LEDs	650 x 635 x 80	H x W x D mm
Mini Cabinet:	32 (1 x 32) LEDs	410 x 450 x 130	H x W x D mm
Large Cabinet:	56 (1 x 56) LEDs	600 x 450 x 130	H x W x D mm
Tall Cabinet:		900 x 450 x 130	H x W x D mm
- **Power Supply:** 24Vdc or 12Vdc
 - 12-way Smart Display Board Operating current - Normal: 12.6mA
 - 8-way Display Board 1.3mA
 - add 20mA for each activated LED.
- **Inputs:** Six (6) controls on two connectors:
 - Silence Alarms, Evacuate and Acknowledge (Buzzer Silence) on connector K5.
 - Door Switch with Door Interlock and Auxiliary Defect on connector K7.
 These inputs pull low (0V - Common) to activate and the status is sent to the fire panel for polled LED Indicators, addressed 1-8.
 Slave **LDUs** (address 9) respond to 'Buzzer Silence' by silencing 'Buzzer On'. When activated, new 'Buzzer On' commands from the panel reactivate 'Buzzer On' and 'Buzzer Silence' must be pressed again to silence the Buzzer.
- **Door Interlock:** If the Door Switch is closed when the Door Interlock input is active (open-circuit), a defect or fault is sent to the fire panel. If the Door Interlock facility is not required, Door Switch is connected to Common (0V).
- **Outputs:** Four (4) controls - Silence Alarms, Evacuate, Buzzer and Bells are available at the LED Indicator and mimic the operation of the fire panel.
 Note: the **F16** supports the Silence Alarms and Evacuate outputs, but not the Buzzer or Bells outputs.
 Each control is activated by a MOSFET pull-down transistor, and is capable of sinking 100mA.
- **Display Size:** Analogue Addressable Panels: up to 64 x 8-way Display Boards may be connected to the 12-way Display Board, giving a total of 520 LED indications for zones plus 4 global LEDs.
 Conventional Panels: up to 7 x 8-way Display Boards may be connected to the 12-way Display Board, giving a total of 64 LED indications for Zones (32 'Fire' plus 32 'Smoke Only' circuits) plus 4 global LEDs
- **Addressing:** Analogue Addressable Panels: addresses 1 to 8 provide fully addressable boards, polled for input control information. The outputs pulse - use for LEDs.
 - address 9 is similar to addresses 1-8, except the inputs are not monitored - use for slave **LDUs**.
 - address 10 is identical to address 9 except the outputs do not pulse - use for relay outputs.
 - addresses 11-15 are similar to addresses 1-5 except the outputs do not pulse - use with monitored inputs and steady outputs (relays).
 Any number of slave **LDUs** may be used, with the total number of devices on the **MIMIC** port limited to 32.
 Conventional Panels: Addresses 1 to 3 are used for individually addressable boards, which are polled for input control information.

- **Communications:** The Display and Control Board is connected to the panel via the RS485 **MIMIC** port.
 Twisted pair cable is recommended.
 The maximum length of cable between the panel and the last device on the **MIMIC** port is 1.2 km.
 The last device is terminated with a 470Ω resistor.
- **Fault Latches:** Four (4) Fault conditions are detected and encoded by the **POLL/FAULT LATCH** LED when a fault is present.
 The latched states are reset when the panel is reset through the User menu.
 Encoded Fault Latches:

1 st flash long	Door Interlock
2 nd flash long	LED Chain fault
3 rd flash long	e ² prom fault
4 th flash long	RS485 Communication fault.



Connection Diagram