



# Powerterm L144R Transformer/Rectifier

Model C2260C four channel 18V/1.5A Transformer/Rectifier Module with Remote Control

## DATASHEET

- Unprecedented control of individual zones using this four zone TR module.
- Ideal for concrete beams and piers
- Avoids the need for paralleling of zones across different sections.
- Communication Interface built in for full remote control and monitoring reduces cabling costs.
- 3 highly accurate control modes: Constant Voltage, Constant Current and Constant Reference Potential
- High Efficiency for reduced heat loading
- Option of three input voltage ranges



### Features

- Accurate stable control down to low current levels
- Built-in shunt for accurate current measurement
- Designed for remote monitoring and control
- Indefinite Open/Short circuit protected output
- Wide operating temperature range
- 85-264Vac powered (24Vdc or 48Vdc option)
- DIN Rail mounting with small panel footprint
- Fanless efficient design for high reliability

### Overview

The PowerView L144R is a high efficiency Transformer/Rectifier module for use in Impressed Current Cathodic Protection systems with a large number of small zones where independent control of each zone is an advantage.

This TR module provides four independently controlled outputs of 1.5A / 18V each with a single shared common negative.

The PowerView L144R can be configured to control constant voltage, constant current, or constant reference potential. All configuration settings can be changed via the serial communications link from a locally mounted *PowerView CP Touch Screen*, and/or remotely using the Omniflex *Data2Desktop Web Portal* from a standard web browser.

### Communications Interface

The PowerView L144R T/R module has an integrated RS485 serial communications ports making this product compatible with the Omniflex PowerView CP Remote Monitoring and Control System. This provides the capability to distribute the TR modules for optimum cabling of the structure while keeping a single point of monitoring and control for the system.

See the system diagrams later in this datasheet for examples of how to connect PowerView L144R module into distributed CP systems.

### Four Independent Zone Outputs

This TR module has four independent fully configurable outputs for automatic control of constant current, voltage or reference potential on each output.

Independent Current and Voltage Limit settings for each output ensure that safe operating conditions selected by the user are not exceeded.

### Automatic Instant Off

The PowerView L144R allows automated Instant Off Control remotely via the serial communications links. This allows Instant Off testing to be conducted from a central location, or remotely from the Data2Desktop website. Using the companion PowerView CP Touch Screen, Instant Off readings can be taken automatically from any number of reference inputs co-ordinated with the cycling of the T/R modules ON/OFF using user settable cycle times.

### PowerView CP Touch Screen

Configuration and monitoring of the PowerView L144R T/R modules in a system is done through a single easy-to-use touch screen in the PowerView CP system without the need for special test equipment or custom software packages. See System diagram below.

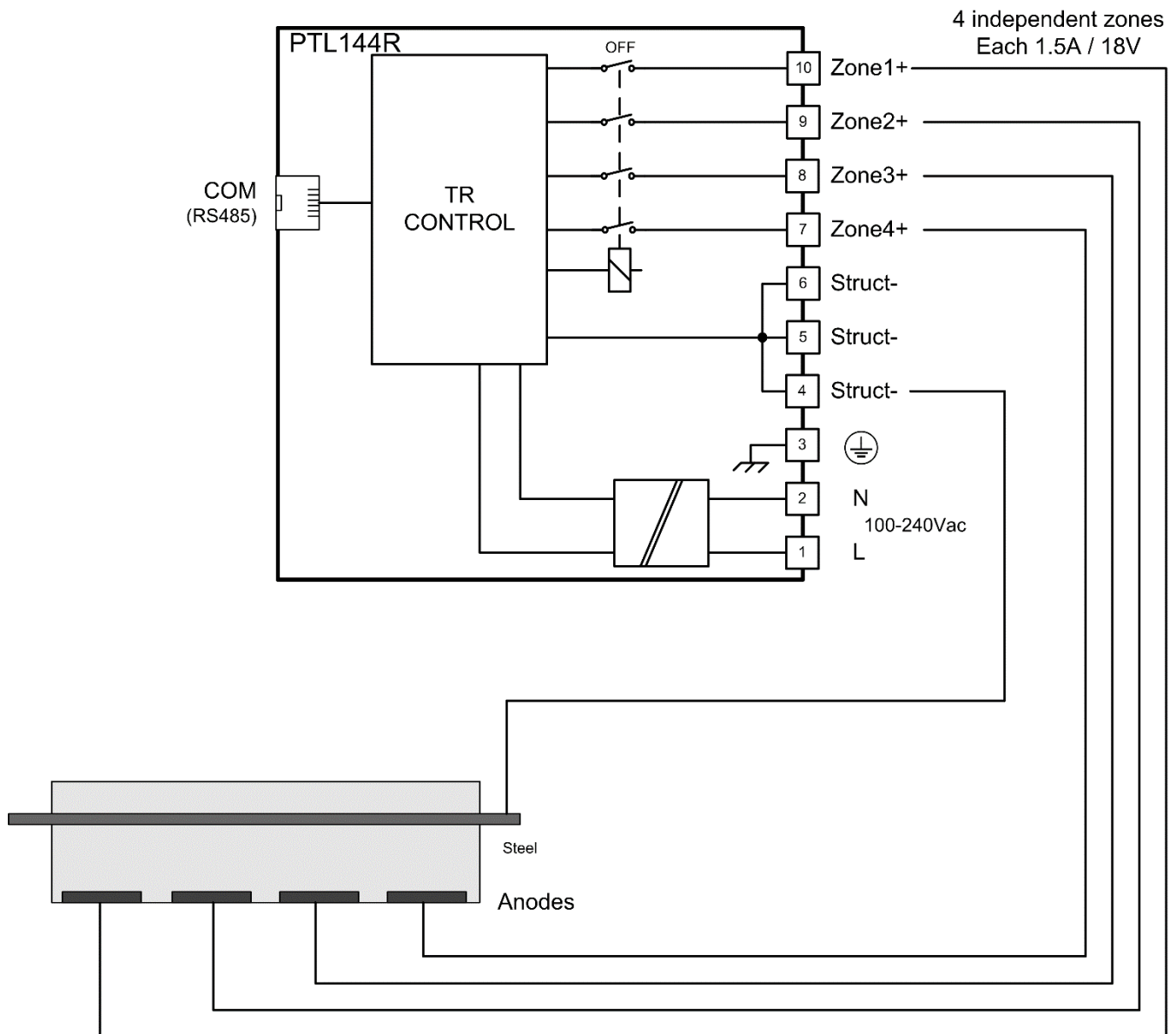




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## Typical L144R System Connection Diagram

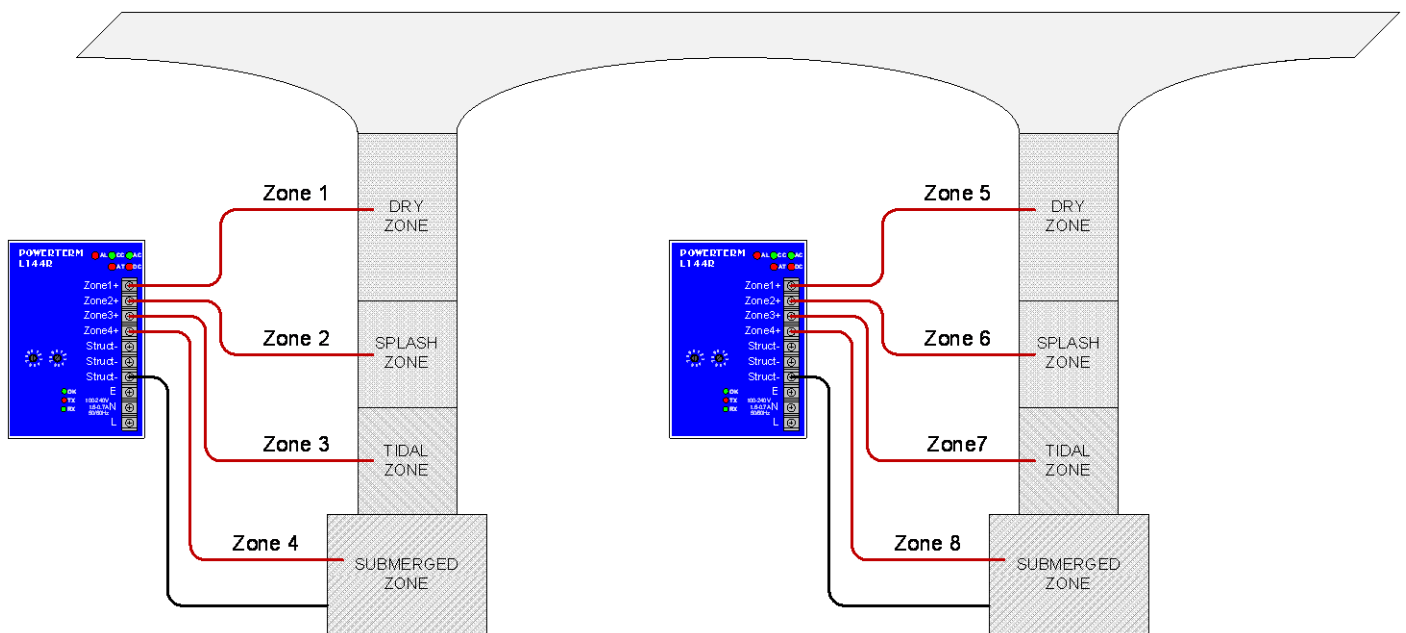




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## Example of L144R in Bridge Pier ICCP Application



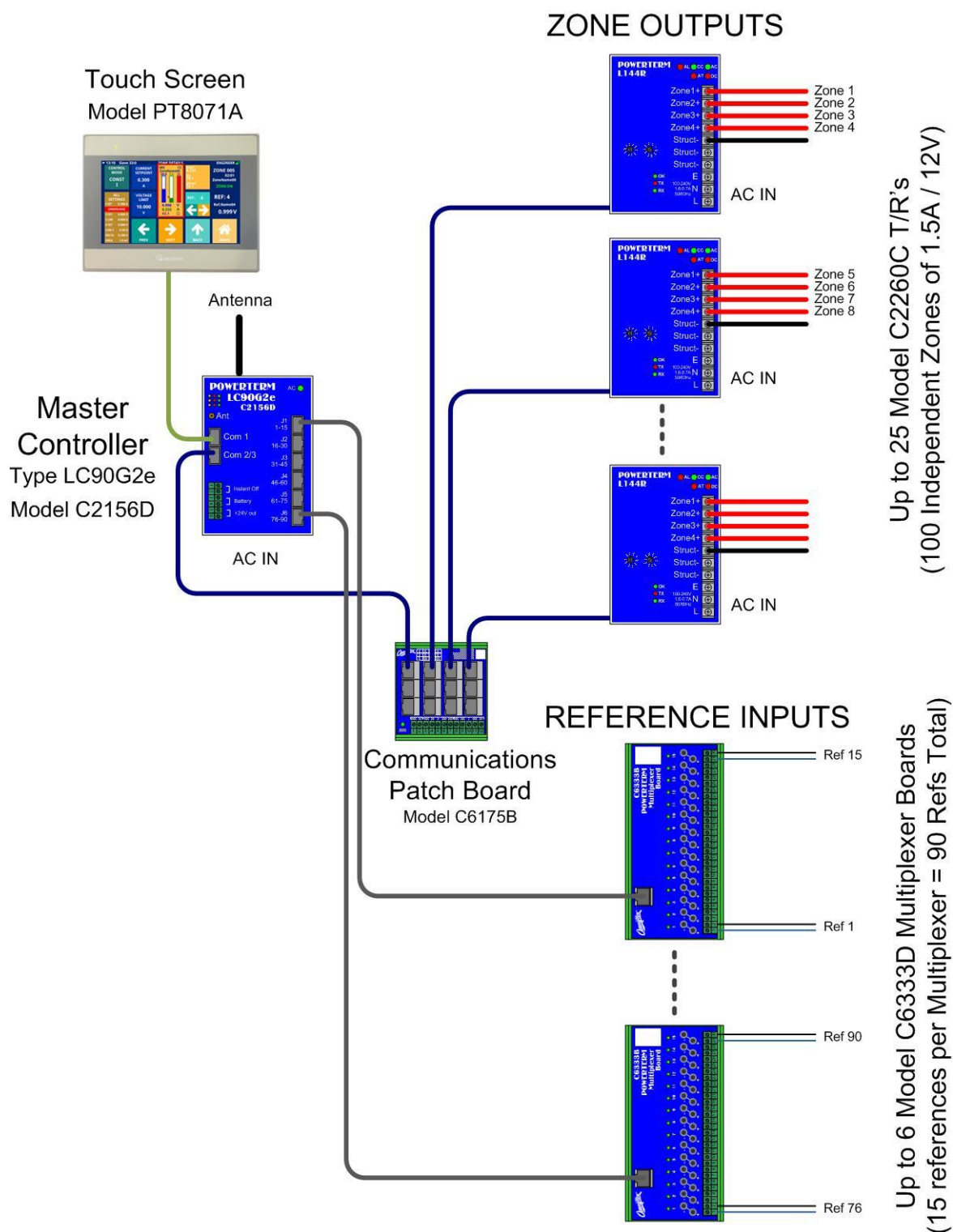
Four Independently adjustable zones  
on each pier give better protection



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## Typical PowerView CP System Configuration

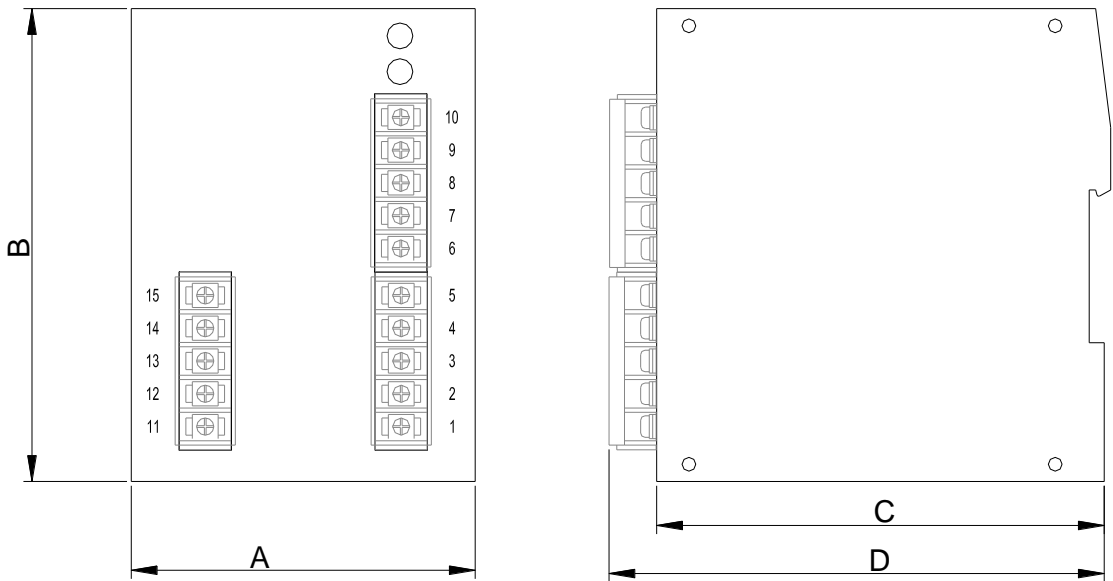




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## Mechanical Details



A	80mm
B	110mm
C	110mm
D	120mm



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## Specifications

### AC Supply

AC input voltage range	85-264Vac
AC input frequency	47-63 Hz
Input current at full load	<1.5A rms at 115Vac <0.8A rms at 230Vac
Switch-on inrush current	15A for <10ms
Surge withstand	2.5kA 8/20us pulse 40 joules max.
Fast Transients	2 kV

### 24Vdc Supply

24Vdc input voltage range	20.4-27.6Vdc
Input current	5A at 20.4Vdc, 3A at 27.6Vdc

### 48Vdc Supply

48Vdc input voltage range	40-60Vdc
Input current	2.5A at 40Vdc, 1.6A at 60Vdc

### DC Outputs (Terminals 7,8 and 9,10)

Output Voltage Range	0-18Vdc on each output
Output Current Range	0-1.5Adc per zone output
Maximum Continuous Total Power	72 Watts at 60°C ambient (see de-rating under Environment)
AC line regulation	0.5% max over 85-132 & 170-264Vac
Load Regulation	2% max over 10-100% of total load
Output Ripple	<100mVrms
Efficiency	>80% at full load

### Test Capability

Instant Off	Internal Cycle Timer synchronised to the system master for automated instant off measurements
On/Off Control	On/Off control from the system master for synchronised depolarisation, and interference testing.

### Constant Current Settings

Current Setpoint	0 to 1.5 Amps
Maximum Voltage Limit	0 to 18 Volts

### Constant Voltage Settings

Voltage Setpoint	0 to 18 Volts
Current Limit	0 to 1.5 Amps

### Constant Reference Settings

Reference Setpoint	0 to -3000 milliVolts
Voltage Limit	0 to 18 Volts
Current Limit	0 to 1.5 Amps

### Indicator Lights

AC (Green)	ON when AC power is ON
DC (Red)	ON when any DC Output is ON
CC (Green)	ON when all outputs set to constant current mode are within control limits Flashing when out of control
AT (Green)	ON when all outputs set to constant reference are within control limits Flashing when out of control
ALM (Red)	ON when any Alarm is present
Detected Alarms on each output	1. Output out of control 2. Voltage out of preset limits 3. Current out of preset limits 4. Reference out of preset limits

### Environment

Operating Temperature	0 to +60°C at continuous full load
Temperature derating	derate 4 Watts/°C up to 70°C max
Storage Temperature	-10°C – 70 °C (+14°F – 158°F)
Design Life at 50°C full load	50 000hours

### Mechanical

Width	80mm
Height	110mm
Depth	120mm (including terminals)

### Weight

Unpacked	680gm approx.
Packed	710gm approx.

### Compliance to Standards

Safety	IEC950; EN60950:1995
Emissions	EN 55011 and EN50081-2:1994 Group I, Class A
Immunity – ESD	IEC 61000-4-2:1995, level 3
Immunity – RF Fields	IEC 61000-4-3:1995, level 3
Immunity – Fast Transients	IEC 61000-4-4:1995 2 kV – AC & DC power ports 1 kV – other input/output lines
Insulation Resistance (100% tested)	100Mohm at 500Vdc input to outputs to ground.
Insulation Breakdown (100% tested)	1500Vac input to earth for 1s 1000Vac output to earth for 1s

### Ordering Information

ORDER CODE	DESCRIPTION
C2260C	PowerView L144R Transformer/Rectifier for remote control with standard 85-264Vac Supply
C2260C-2	PowerView L144R Transformer/Rectifier for remote control with 24Vdc Supply
C2260C-3	PowerView L144R Transformer/Rectifier for remote control with 48Vdc Supply





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