

### Fast pulse pre-amplifier

#### Features

- DC-coupled, 50 ohm impedance.
- Gain +32 dB
- DC to 10 MHz -3dB bandwidth.
- Very compact package.



#### Applications

- Fast scintillator pulse counting readout (matched for  $\text{LaCl}_3$ ,  $\text{LaBr}_3$  and YAP crystals).
- General pulse counting detector readout

#### Options

- CP10-A is matched to fast crystal scintillators
- See CP10-B for plastic scintillators, CDEMs, and APDs

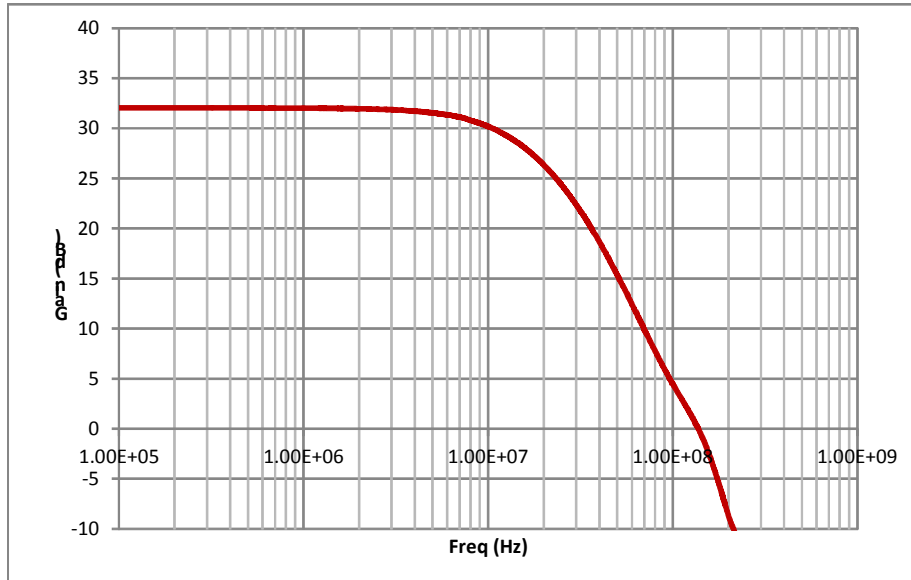
#### Specifications

Input impedance	50 ohms (when powered).
Gain	+32 dB +/- 0.5 dB into 50 ohm load
Bandwidth	DC to 10 MHz (-3 dB) Unity gain at > 100 MHz
Risetime	30 nsec (10% to 90%)
Output impedance	50 ohms
Noise	< 1 mV RMS at output, DC to 100 MHz
Output drive	>= +/- 1.7 V into 50 ohm load >= +/- 3.4 V into high impedance load
Maximum output cable length	Able to drive >= 30 metre RG-174 or RG-316

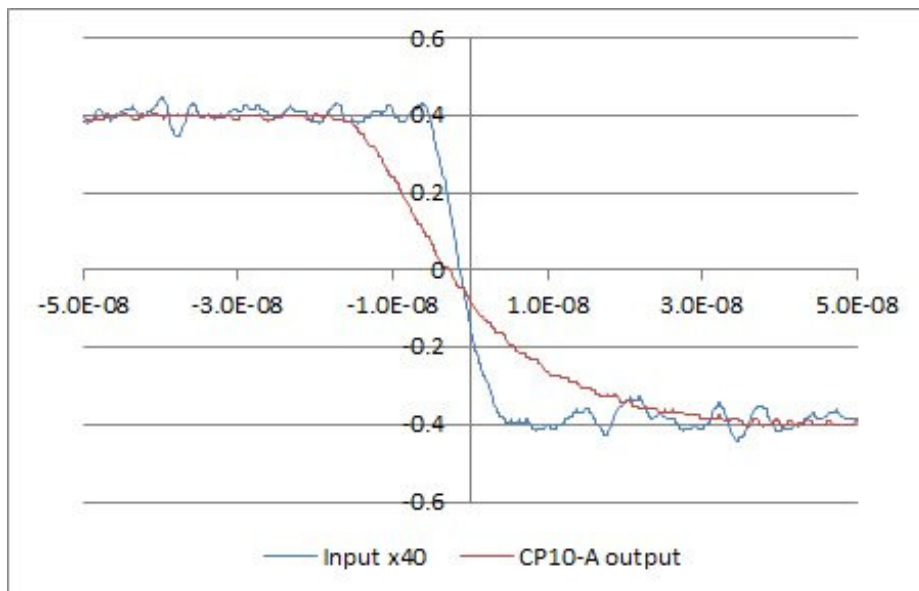


### Specifications (continued)

#### Frequency response



#### Step response



# Datasheet

**CP10-A**

## Specifications (continued)

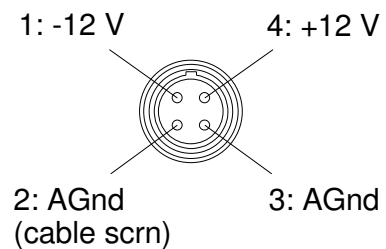
Power input	+12V (+2/-4 V) DC, 50 mA and -12V (+4/-2 V), 50 mA
Displays	Power on LED
Case	Machined Al alloy case with tapped hole pattern for mounting.
Weight	80 g ( 3 oz)
Operating environment	10 to 35 C (15 to 25 C recommended to reduce drift and offset) , < 70% humidity, non-condensing, vibration < 0.1g all axes (1 to 1000 Hz)
Shipping and storage environment	-10 to 50 C, < 80% humidity, non-condensing, vibration < 1g all axes, 1 to 1000 Hz

## Connectors

Signal input Lemo coaxial size 00

Power Lemo 0B four-pin female  
(mating cable connector FGG.0B.304)

(view on CP10 connector / solder side  
of mating cable connector)



Signal output Lemo coaxial size 00

## Ordering information

CP10-A Pre-amplifier suitable for LaCl<sub>3</sub>, LaBr<sub>3</sub> and YAP scintillator / photomultipliers.

## Related products

CP10-B Fast pre-amplifier (suitable for plastic scintillators, electron multipliers, avalanche photodiodes)

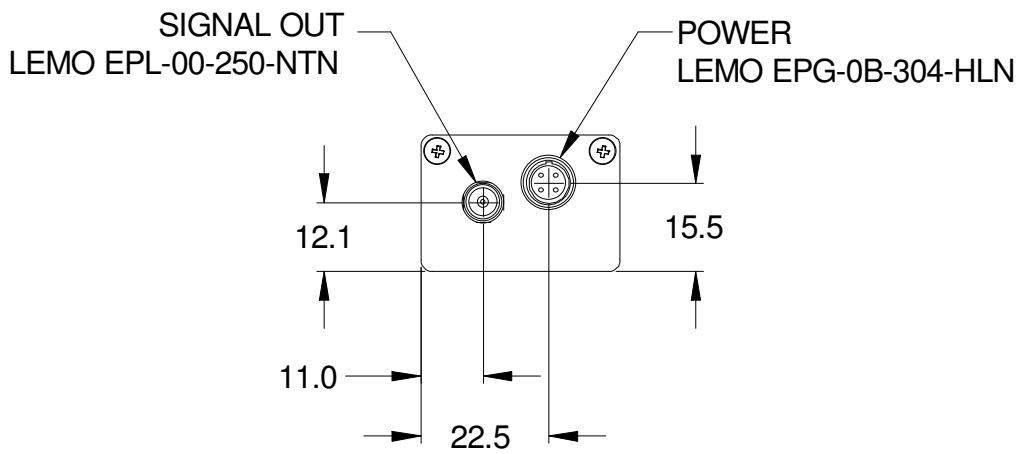
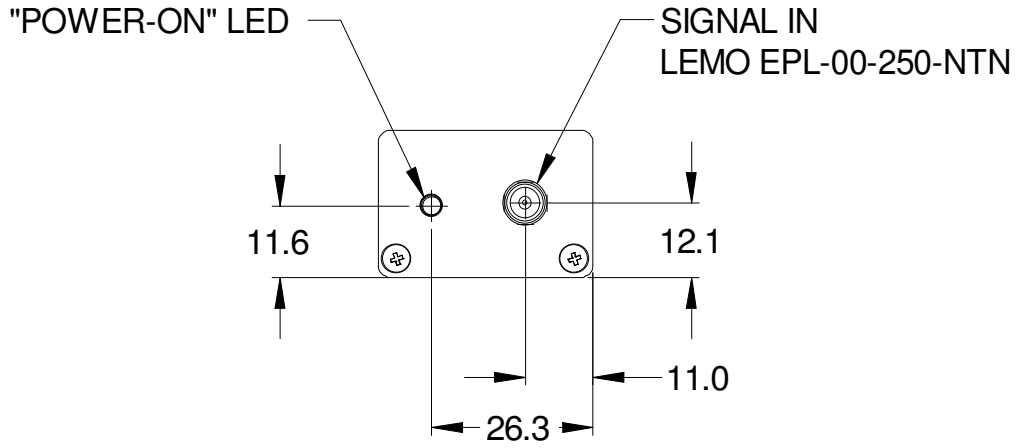
C400 Four channel pulse detector controller (fast window discriminators and scalers, supplies HV bias and pre-amp power).



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# Datasheet

**CP10-A**



Dims mm

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The information herein is believed accurate at time of publication, but no specific warranty is given regarding its use. All specifications are subject to change.

All trademarks and names acknowledged.

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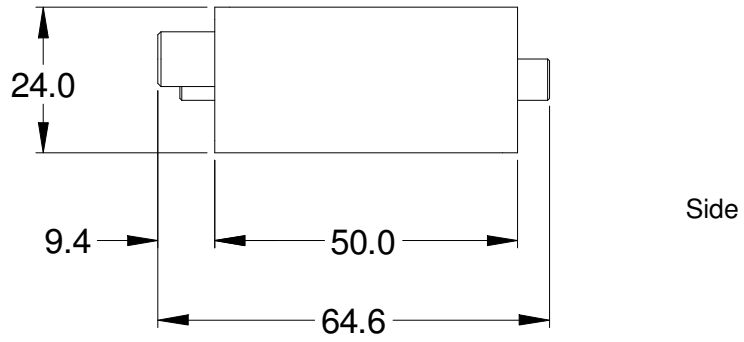


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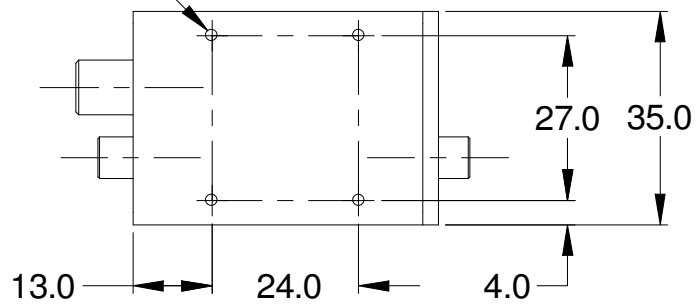
**PSI System Controls and Diagnostics**

# Datasheet

**CP10-A**



2X  
TAPPED HOLE  
M2.5X0.45 x 5



Dims mm



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