ELC-10PR

High-density Signal Conditioners *10-RACK*

PULSE SCALER | MODEL **10PR**

MODEL & SUFFIX CODE SELECTION

10PR–❑❑0–R

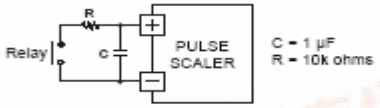
MODEL
INPUT
1 : Dry contact (max. frequency 100 kHz)
2 : Voltage pulse (max. frequency 100 kHz)
OUTPUT
1 : Open collector (max. frequency 20 kHz)
2 : 5V pulse (max. frequency 20 kHz)
3 : Relay contact (max. frequency 2 Hz)
4 : 24V pulse (max. frequency 20 Hz)
POWER INPUT
R : 24V DC

ORDERING INFORMATION

Specify code number and variables.
•Code number (e.g. 10PR-110-R)
•Input frequency range (e.g. 0 – 356.7 Hz)
•Output frequency range (e.g. 0 – 1.00 Hz)

REMARKS

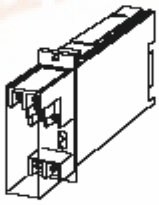
1. The 10PR's output waveform is not uniform due to its scaling method.
2. Use input relays which do not cause chattering (e.g. mercury relays). Other relays could be used only with a CR filter, for 10 Hz at maximum.



GENERAL SPECIFICATIONS

Construction: rack-mounted; terminal access via screw terminals at the front and via card-edge connector at the rear; terminal cover provided
Connection: M3.5 screw terminals (nickel-plated steel; torque ≤0.8 N·m) and card-edge connector
Housing material: flame-resistant resin (black)
Power input: supplied from card-edge connector
Power fuse: 0.5A
Isolation: input to output to power
Input pulse sensing: capacitor coupled; detecting pulse rise
Sensitivity adjustment: single-turn screwdriver adjustment (front); 25mV p-p – 5V p-p
Scaling factor: $0.9999 \times 10^{0} - 0.0001 \times 10^{-6}$

ISOLATION



Functions & Features
• Converting pulse rate into convenient engineering unit for display on a totalizing counter or meter
• Fuse
Typical Applications
• Positive displacement flowmeters and turbine flowmeters • Magnetic tachometers

INPUT & OUTPUT

■INPUT
Maximum frequency: 100 kHz
Pulse width time requirement: 5 μsec. min. (20 msec. min. for frequencies ≤10 Hz)

•Dry Contact: mechanical contact or open collector
Sensing: approx. 7.5V DC @1mA
ON/OFF level: ≤20kΩ for ON, ≥100kΩ for OFF

•Voltage Pulse: square or sine waveforms**
Input amplitude: 25mV p-p – 50V p-p
Minimum amplitude requirement
With duty ratio 50% ±10%

FREQUENCY	AMPLITUDE
0 – 2 kHz	25mV p-p
0 – 20 kHz	50mV p-p
0 – 40 kHz	1V p-p
0 – 100 kHz	5V p-p

With duty ratio other than 50% ±10%

PULSE WIDTH	AMPLITUDE
5 μsec.	5V p-p
10 μsec.	3.5V p-p
50 μsec.	2V p-p
100 μsec.	1V p-p
500 μsec.	0.5V p-p

Specifications subject to change without notice

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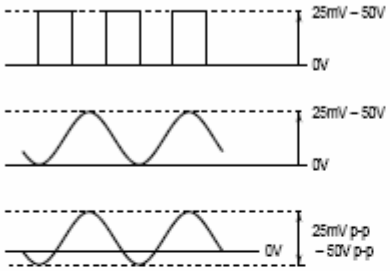
Input impedance: 100kΩ minimum



■OUTPUT

•Open Collector: 50V DC @50mA (resistive load)
Frequency range: 0 – 20 kHz
ON pulse width: approx. 30 µsec.
Saturation voltage: 0.6V DC

•5V Pulse
Frequency range: 0 – 20 kHz
Low pulse width: approx. 30 µsec.
High level: 5V ±10%
Low level: ≤0.5V
Load resistance: 600Ω minimum

•Relay Contact: 120V AC @200mA (cosø=1)
240V AC @100mA (cosø=1)
24V DC @200mA (resistive load)
Frequency range: 0 – 2 Hz
ON pulse width: approx. 30 millisec.
Relay life: ≥5 × 10^7 cycles (mechanical)
≥10^5 cycles (electrical)

•24V Pulse
Frequency range: 0 – 20 Hz
Low pulse width: approx. 30 millisec.
High level: 24V ±10%
Low level: ≤0.5V
Load current: 30mA max.
Load resistance: 800Ω minimum

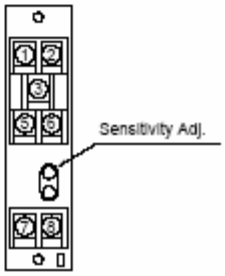
INSTALLATION

Power input: 24V DC ±10%, approx. 80mA
(ripple 10% p-p max.)
Operating temperature: -5 to +55°C (23 to 131°F)
Operating humidity: 30 to 90% RH (non-condensing)
Mounting: Standard Rack 10BX❑
Dimensions: W25×H99×D180 mm (0.98"×3.90"×7.09")
See General Spec. Sheet Figure A-1.
Weight: 200 g (0.44 lbs)
Terminal assignment: See General Spec. Sheet Figure B-1.

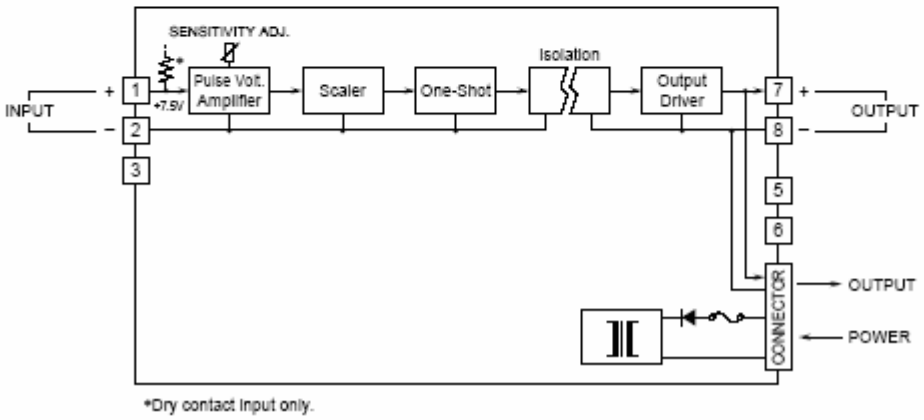
PERFORMANCE

Insulation resistance: ≥100MΩ with 500V DC
Dielectric strength: 500V AC @1 minute
(input to output to power)
1500V AC @1 minute
(input or output or power to ground)

FRONT PANEL CONFIGURATION



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*Dry contact input only.

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