AMELEC SIGNAL CONDITIONING

# ADM232KXL DC Current Trip Amplifier

- Supply voltage:
  **115VAC ±20%**
  **230VAC ±20%**
  **24VDC ±2.5V**
- Amelec standard 10 year guarantee
- Suitable for SIL Level 1 & 2 (IEC 61508-2)
- RFI protection to IEC61000-4-3 (up to 10V/metre)

## TECHNICAL SPECIFICATION

### FUNCTION

Signal Converter / Isolator with High or Low latching trip

### INPUT

Bipolar DC current / voltage can be specified:
Current up to 100mA max (Passive)
Voltage up to 420Vdc max
Typical input ± 100Vdc / ±200Vdc

### OUTPUT

Any standard process current or voltage
Current source up to 20mA. Drive voltage 24vdc
Voltage source up to 10V. Max current 20mA.

High or low trip with latching D.P.C.O. relay.
Trip reset by push button on unit front fascia

### ISOLATION

500V dc between input, output, contacts, supply and earth. Open circuit response may be specified as upscale or downscale.

### PERFORMANCE

Accuracy ± 0.1%
Trip settability: ±0.1%
Trip repeatability: ±0.1%
Response time: <100mSec max

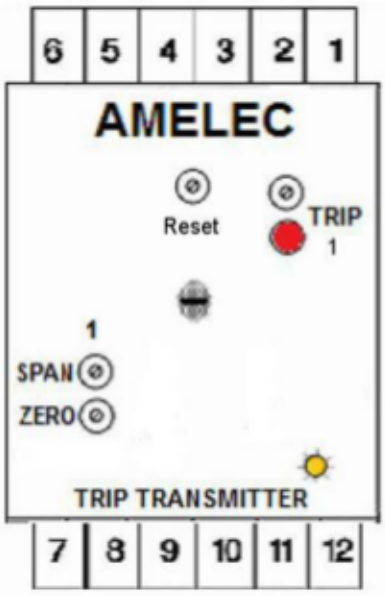
### ENVIROMENTAL CONDITION

Storage temperature: - 40 to +70 ℃
Operating Ambient: -15 to +55 ℃
Relative Humidity: 5 to 95% RH
RFI Immunity: <1% of span error
10V/m; 20 to 1000MHz

**Termination**

| | |
|---|---|
| Input + | 1 |
| Input - | 2 |
| Trip 1 a N.C. | 3 |
| Trip 1 a Com | 4 |
| Trip 1 a N.O. | 5 |
| Output + | 6 |
| Output - | 7 |
| Trip 1 b N.C | 8 |
| Trip 1 b Com | 9 |
| Trip 1 b N.O | 10 |
| Live / + | 11 |
| Neutral / - | 12 |

**Front View**





### MOUNTING / DIMENSION

Enclosure: 50w x 75h x 182d
Mounting: Din rail / Surface (optional Panel Mount)
Weight: <500g

### ADD ON / OPTIONS

J: Input injection jack socket
P: Test Point (Trip set point monitoring)
T: Time Delay Trip Relay
Non-standard Power supply ranges available

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# AD SERIES GENERAL SPECIFICATION

## INPUT DATA

**Input source**

For details see individual specification

**Open circuit response**

For details see individual specification.

**Input Impedance** (Voltage input)

>1Mohm at amplifier input. This will be shunted by burnout drive or input conditioning components.

## SUPPLY DATA

**Power supplies**

| | |
|---|---|
| AC models | 115 / 230 VAC ±20% |
| DC models | 24VDC ± 2.5V |
| 2 wire | 12- 60VDC |

**Consumption**

| | |
|---|---|
| Transmitter / Trip amplifier | 3VA |
| 2 Wire transmitter | 250mW |

## OUTPUT DATA

**Output signals**

Standard units

Any constant current from 0-l00uA to 0-20mA (at up to 20V loop) or any constant voltage from 0-1V to 0-10V (at up to 20mA loading).

**2-wire units**

4-20mA or 10-50mA as modulation of supply voltage.

**Response time**

<400mSec. Unless otherwise stated.

Typical response time for a Trip with 4-20mA input; <150uS for 1% step change and <100mS for 100% step change.

**Relay specification**

DP/DT or SP/DT for each trip, unless otherwise stated. Contacts are rated at 250 VAC, 2A, 100 VA (Resistive).

**Relay function**

Selected by PC link. Default is normally energised, relay to de-energise on trip (fail safe operation).

**Relay status**

Indicated by a red LED for each trip, mounted on the front panel. Lit when relay is energised.

**Controls**

| | |
|---|---|
| ZERO | ± 25% |
| SPAN | ±50% |
| TRIP (When fitted) | 0-100% |
| DEADBAND (When fitted) | 1-20% |

## CONDITIONS

**Ambient temperature**

| | |
|---|---|
| Working | -20°C to +60°C |
| Storage | -40°C to +70°C |

**Humidity**

From 5% to 95% RH.

**Vibration**

1g at 15Hz to 150Hz.

## ELECTRICAL STANDARDS

**Insulation Input-output-contacts-earth**

1000V RMS continuous. 2000V for 20uSec. Derate to 500VDC for option ‘K’ enclosures.

**Fusing**

Power supply fused.

## WIRING AND MOUNTING

**Terminals**

For conductors up to 2.5mm²

**Weight**

<1kg per module.

**Position**

Any position is acceptable.

**Mounting**

Standard units will fit onto a low profile 35mm DIN rail or be surface mounted by corner fixing holes. Option ‘K’ and ‘DI’ enclosures are suitable for DIN rail or panel mounting.

**Additional protection**

Enclosures are available to NEMA 12 oiltight, NEMA 4 watertight and IP54 for N-protection.

## PERFORMANCE

**Input/output linearity**

<0.1% error, unless otherwise stated

**Series mode rejection**

<01% error for 50Hz input at 5% of span amplitude.

**Common mode rejection**

<01% error for 250V RMS.

**Temperature effect on zero**

<0.02% per °C.

**Temperature effect on span**

<0.01% of span per °C or <0.1°C per °C, whichever is the greater.

**Temperature effect on suppression/elevation** <0.02% of suppression/elevation per °C.

**Supply voltage effect**

<0.01% per % input change.

**Trip adjustment**

By multiturn potentiometers, which are accessible through the front panel.

**Deadband**

Standard 1%. Also available adjustable from 1 to 20% by multi turn potentiometer. (To special order only)

**RFI rejection**

Standard units meet the CE requirements. However, for additional RFI protection, specify option ‘K’.

**Permissible Input overload**

| | |
|---|---|
| mV input | 20V |
| DC voltage Input | 200V |
| DC current Input | 500% |
| AC voltage Input | 200% |
| AC current input | 500% |
| Resistance Input | 6V |