

**4 to 20 mA DC  
CURRENT RELAY WITH  
SENSOR SHORT PROTECTION**  
Type: ILUA & ILUB

**FEATURES**

- Includes a 35 mA current limit for a loop powered external sensor in order to secure against shorted sensor wires
- Includes an alarm LED for a shorted or broken sensor wire
- Adjustable differential
- 0 to 2 sec. adjustable ON and OFF delay
- LEDs indicate the state of input, fault and relay
- Extremely compact solution

**Description:**

The current relay is designed to be used as a trip relay in a 4 to 20 mA current loop. The ILUA comes with single turn potentiometers for the set point and the differential, and the ILUB with multiturn potentiometers for precise setting. The differential is adjustable from 1 to 20% of the set tripping current. The relay is powered from an external 16 to 32 VDC source, and includes a 35 mA current limiter to the attached sensor, as well as an under current monitor for a broken sensor wire. If the sensor current goes higher or lower than the limits, a Red LED will be lit and in case of an over current the internal relay will be released. The relays are provided with a common 0 to 2 sec. adjustable timer for pull In and drop Out. The timer can as an option be specified up to 30 sec. and disabled for either pull In or drop Out delay.

**Operation:**

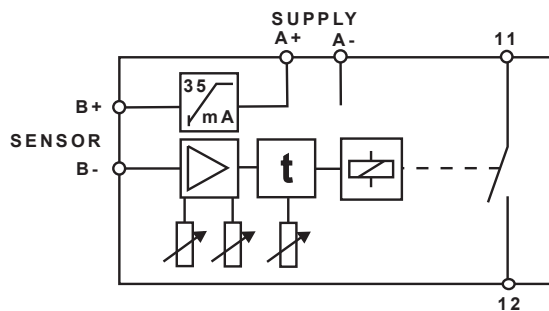
The level of the input current is shown by the Yellow LED for currents below the set point ( -differential ) and the Green LED for currents above the set point ( -differential ). Under normal conditions the relay is released at low current and will pull in at the set tripping point, indicated by a Yellow LED. When the relay is energized, the current has to drop below the set point minus the set differential for drop out. Precautions must be taken for low set point currents in order to secure that the set point minus the differential is above the minimum of the sensor range of 4 mA.

**Application:**

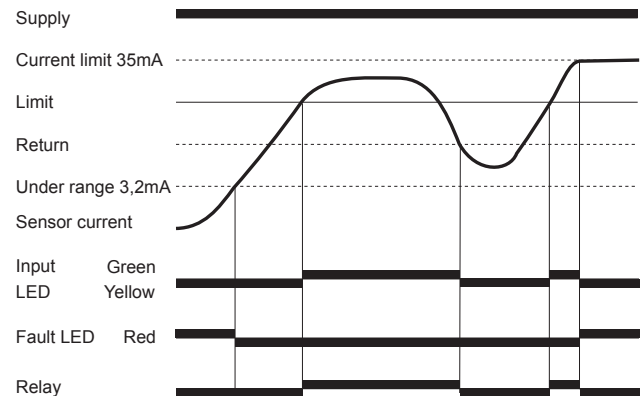
Used with sensors, transducers and transmitters as an alarm or control relay. Surveillance of all kinds of physical measures, which can be converted to a 4 to 20 mA signal.

**CONNECTION DIAGRAM**

Rail mounting



**FUNCTION DIAGRAM**



## SPECIFICATIONS

<b>INPUT</b>	DC current	
Range	4 - 20 mA	
Differential	Adjustable 1 to 20% of set point	
Input resistance	50 Ohm	
Max. continuous current	70 mA	
Sensor current	Limited by internal circuit to max. 40 mA	
Sensor Voltage	Supply voltage minus 5V	
<b>PERFORMANCE PARAMETERS</b>		
<b>TIMING</b>		
Response time	Approx. 100 msec.	
Delay	Adjustable On/Off 0 to 2 sec.	
<b>ELECTRICAL</b>		
Temp. dependence	Typ. $\pm 0.02\%$ / °C	
Supply dependence	Typ. $\pm 0.01\%$ / % DU	
<b>OUTPUT</b>	Relay, 1 N/O	
Contact rating	5 A, 250 Vac, 1250 W	
Mechanical life	15 Million operations	
<b>SUPPLY</b>	DC voltage	
DC supply range	24 V (from 16 to 32 V)	
Power consumption	1 W	
<b>GENERAL</b>		
Temperature range	- 25 °C to + 55 °C ambient	
Humidity	Up to 90 % RH non-condensing	
Dielectric test voltage	Coil to relay contacts	4000
VAC	Open contact	1000
VAC	Weight	60 g



EMC directive 89/336:

Low voltage directive 73/23:

International Standards  
 EN50081 - Emission  
 EN50082 - Immunity  
 EN60255 - Electrical Relays

## ORDERING INFORMATION

### EXAMPLE:

**TYPE**  
 Relay with single turn potentiometer  
 Relay with multi turn potentiometer

### SUPPLY

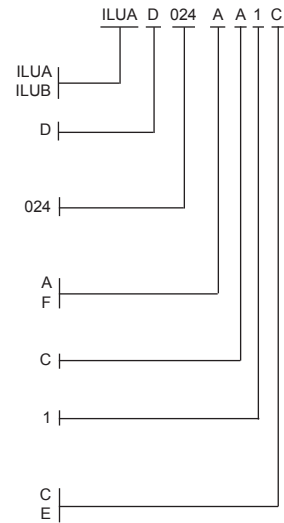
**SUPPLY VOLTAGE**  
 From 16 to 32 VDC

**ADJUSTMENT**  
 Adjustable  
 Fixed

**HOUSING**  
 Rail mounting M36

**SIZE**  
 17.5 mm

**CODE**  
 Code end  
 Extended code



## OPTIONAL EXTRAS

### TIME MODULES - type TAI, TAO and TAB.

The modules cause delay on operate, delay on release and delay on both operate and release. The delay is adjustable and can be specified up to 30 sec. On applying the supply voltage, the delay on operate will follow the power up reset period.  
 As standard the ILUA and ILUB are supplied with a TAB 02 timing module.

### SPECIAL FACTORY ADJUST - type SFA.

The relay can be factory preadjusted according to customers specifications.