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< Track & Infrastructure

# TECHNO-ELEC

## Specialising in Responsive Relays

**T**ECHNO-ELEC specialises in designing, manufacturing and selling measuring relays, known as 'responsive relays'. TECHNO-ELEC is a key partner of electrical traction (metros, tramways, trains, high-speed trains, substations).

We manufacture products for both on-board and trackside applications.

### Services

#### Studies

- Measurement relay design, voltage, current, differential or for specific application, based on Servo-Contact technology
- Consulting and expertise on choice of features to size the product according to customer needs

#### Production & Marketing

- Development, manufacture and sale

#### Aftersales Service

- Preventive maintenance (product functional checks)
- Curative maintenance (expertise and repair, change of worn parts)

- Specific maintenance contracts

#### Main Characteristics

- Operation fields: from 1mA to 15,000A / from 10mV to 4,000V (AC/DC)
- Dielectric strength: up to 20,000V 50Hz- 1 min (primary circuit/secondary circuit)
- High overloads on measuring circuit
- Fire resistance according to standards NF F16-101-102 & EN 45545
- Fully operational whatever the direction

#### Relay Categories

- Current relays: they are used in applications such as current detection, threshold control, overload detection, ground fault detection, engine start, etc.
- Voltage relays: they are used in applications such as voltage detection, catenary voltage

detection, threshold control, voltage monitoring of battery chargers, etc.

- Differential relays: they are used in applications such as DC or AC current differential protection, AC or DC voltage differential protection, etc.
- Custom relays: associated to electronics, we can create more specific relays, such as time-relays on closing or tripping, flashing relays, clipper time relays, etc.



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**SERVO CONTACT**

## Main Characteristics and Benefits

	<p><b>Tailor-Made Relays</b></p>	<ul style="list-style-type: none"> <li>- Wide range of adjustment</li> <li>- Precision, sensitivity</li> <li>- From 1 mA to 15000 Amp</li> <li>- From 10 mV to 10000 Volts</li> <li>- May be mounted in any ways (head down)</li> <li>- Fit to unique requests</li> </ul>
	<p><b>Reliability and Strength</b></p>	<ul style="list-style-type: none"> <li>- Functioning in vehicles for more than 50 years</li> <li>- Lifetime: <math>10^7</math> operations</li> <li>- Ambient operating temperature: from - 25° to + 70°C</li> <li>- Humidity: 95%</li> <li>- No maintenance</li> </ul>
	<p><b>High Galvanic Separation</b></p>	<ul style="list-style-type: none"> <li>- Dielectric testing to 20k volts (between HT and LT)</li> </ul>
	<p><b>No Auxiliary Supply Required</b></p>	<ul style="list-style-type: none"> <li>- Standalone equipment</li> <li>- Protection of people and equipment</li> </ul>
	<p><b>High Resistance to Strong Overloads</b></p>	<ul style="list-style-type: none"> <li>- Overload protection (motor ...)</li> <li>- Overload protection in short circuit</li> </ul>
	<p><b>Low Energy Consumption</b></p>	<ul style="list-style-type: none"> <li>- From some mWatts to a few Watts (close to zero for current relays)</li> </ul>
	<p><b>Self-Restorable</b></p>	<ul style="list-style-type: none"> <li>- Customers can repair and maintain our devices themselves</li> <li>- After sales services</li> <li>- Plug and play</li> </ul>
	<p><b>Respectful to Railway Standards</b></p>	<ul style="list-style-type: none"> <li>- IEC 60077 / IEC 60068</li> <li>- EN 50123 / EN 50124</li> </ul>
	<p><b>Flexibility and Reactivity</b></p>	<ul style="list-style-type: none"> <li>- Good management of urgent cases</li> <li>- Manufacturing flexibility</li> </ul>
	<p><b>Made in France</b></p>	