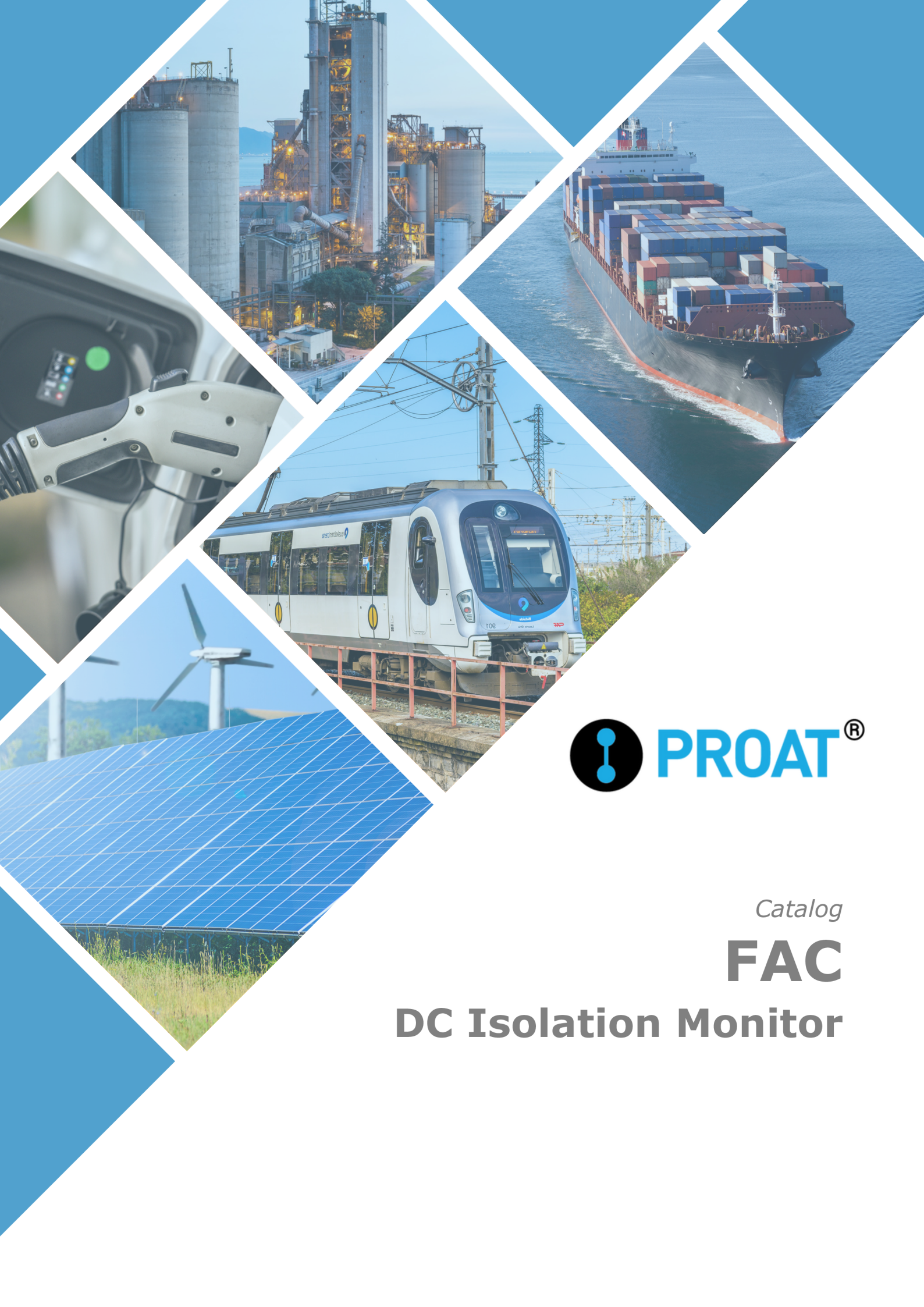




*Catalog*  
**FAC**  
**DC Isolation Monitor**



## DC Isolation Monitor

- ✓ **Detects insulation** faults between the (+) and (-) conductors with regard to ground
- ✓ Potential-free commuted **output relay**, depending on the model
- ✓ **Self-powered** device
- ✓ For IT systems from **9V<sub>DC</sub> - 230V<sub>DC</sub>**, depending on the model



### Applications

Monitoring of possible ground faults of IT ground isolated DC systems:

- Electrical installations that are isolated from ground
- Battery systems
- Systems with power conversion for components with rectifiers or inverters
- Recreational or military vessels



### Function Features

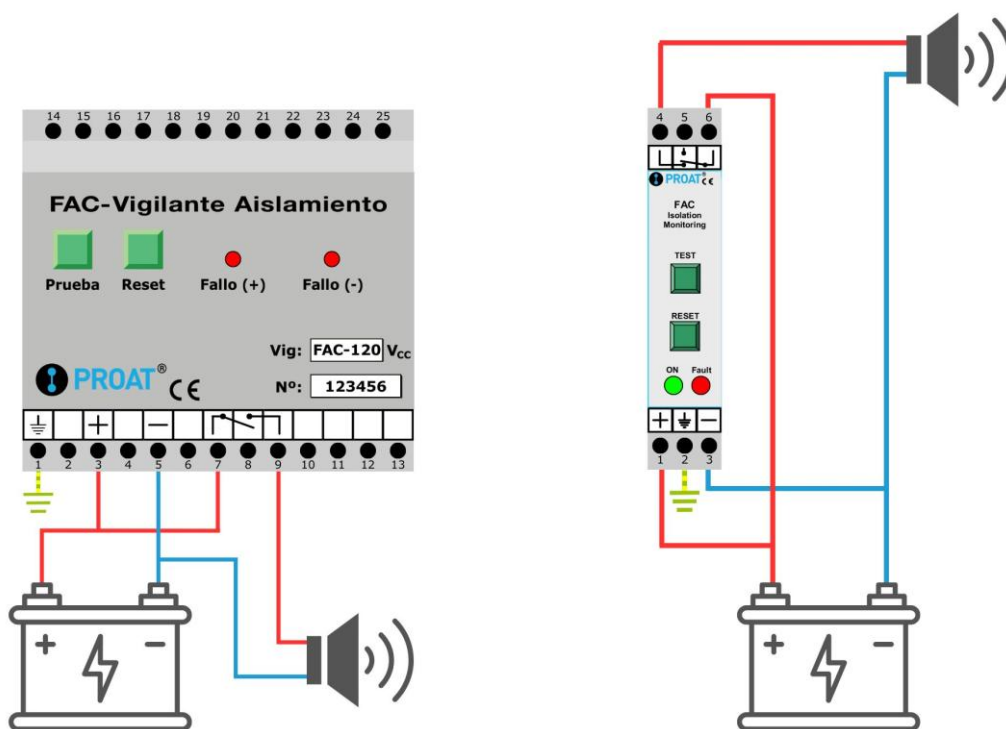
- Potential-free output relay to signal a detected fault
- **TEST** button to simulate a connection between (+) or (-) and ground
- **RESET** button to reset the device and clear the fault
- LED indicators for fault signaling
- Self-powered by the installation

## Models

| Model          | Nominal Voltage $U_N$ | Operating Range         | Alarm Level   | Power Voltage | DIN Size    |
|----------------|-----------------------|-------------------------|---------------|---------------|-------------|
| <b>FAC-12D</b> | 12 V <sub>DC</sub>    | 9-18 V <sub>DC</sub>    | 1 k $\Omega$  | Self-powered  | 1M – 18,5mm |
| <b>FAC-24D</b> | 24 V <sub>DC</sub>    | 18-32 V <sub>DC</sub>   | 1 k $\Omega$  | Self-powered  | 1M – 18,5mm |
| <b>FAC-48D</b> | 42 V <sub>DC</sub>    | 36-55 V <sub>DC</sub>   | 1 k $\Omega$  | Self-powered  | 1M – 18,5mm |
| <b>FAC-055</b> | 48 V <sub>DC</sub>    | 24-55 V <sub>DC</sub>   | 80 k $\Omega$ | Self-powered  | 4M – 71mm   |
| <b>FAC-120</b> | 120 V <sub>DC</sub>   | 60-138 V <sub>DC</sub>  | 80 k $\Omega$ | Self-powered  | 4M – 71mm   |
| <b>FAC-200</b> | 200 V <sub>DC</sub>   | 100-230 V <sub>DC</sub> | 80 k $\Omega$ | Self-powered  | 4M – 71mm   |

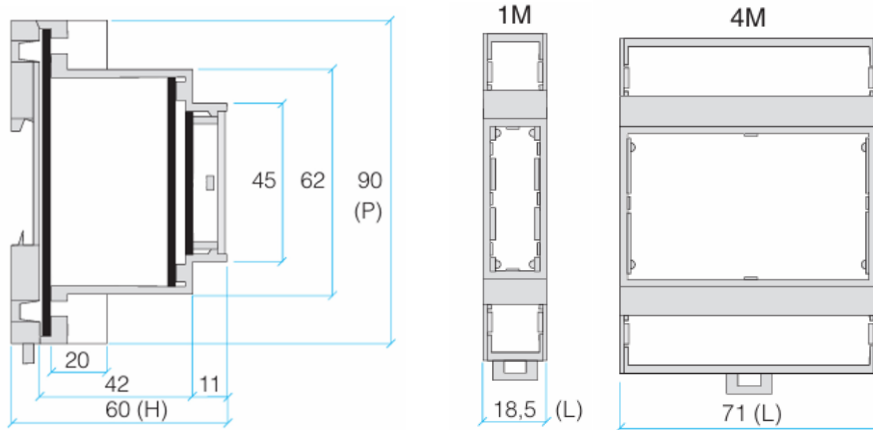
\* Other models can be manufactured upon request

## Wiring



## ❶ Constructive Features

- DIN rail mounting
- Front plate terminals
- Class V0 self-extinguishing plastic enclosure



## ❷ Technical Data

| MODEL                                   | FAC-12/24/48               | FAC-055/120/200                         |
|-----------------------------------------|----------------------------|-----------------------------------------|
| Voltage Range                           |                            |                                         |
| Voltage range U <sub>N</sub>            | U <sub>N</sub> ±20%        | U <sub>N</sub> /2 - U <sub>N</sub> +15% |
| Power consumption                       | ≤6W                        | ≤6W                                     |
| Consumption at rest                     | ≤0,5W                      | ≤0,5W                                   |
| Response Values                         |                            |                                         |
| Alarm level                             | 1 kΩ                       | 80 kΩ                                   |
| Measurement error                       | ±10%                       | ±10%                                    |
| Response time T <sub>R</sub>            | < 5 s                      | <100 ms                                 |
| Fault detection                         | Symmetrical                | Simple                                  |
| Measuring Circuit                       |                            |                                         |
| Max voltage U <sub>N</sub>              | U <sub>N</sub> +20%        | U <sub>N</sub> +15%                     |
| Internal resistance R+                  | >10kΩ                      | >56 kΩ (V <sub>N</sub> =120)            |
| Internal resistance R-                  | >10 kΩ                     | >56 kΩ (V <sub>N</sub> =120)            |
| Ground impedance                        | >10kΩ                      | >300 kΩ                                 |
| Parasitic capacity                      | <5 μF                      | <1000 μF                                |
| Front View                              |                            |                                         |
| ON                                      | Green Led                  | -                                       |
| Fault                                   | Red Led                    | -                                       |
| Fault (+)                               | -                          | Red Led                                 |
| Fault (-)                               | -                          | Red Led                                 |
| Test button                             | Yes                        | Yes                                     |
| Reset button                            | Yes                        | Yes                                     |
| Dielectric Test                         |                            |                                         |
| V <sub>DC</sub> input - output contacts | 3k V <sub>RMS</sub> – 1min | 3k V <sub>RMS</sub> – 1min              |

| Switching Elements                       |                                                     |
|------------------------------------------|-----------------------------------------------------|
| Number of switching elements             | 1                                                   |
| Type of outputs                          | FAC-12/24/48 – Switched<br>FAC-55/120/200 – Contact |
| Voltage outputs                          | Voltage free                                        |
| Max AC load                              | 250V <sub>AC</sub> 2A                               |
| Max DC load                              | 300V <sub>DC</sub> 0,1A                             |
| Switching time RL                        | < 10 ms                                             |
| Number of cycles                         | 20,000,000                                          |
| General Data                             |                                                     |
| Operation mode                           | Continually                                         |
| Mounting                                 | DIN rail                                            |
| Connection                               | Screw M2,5                                          |
| Screw torque                             | ≤0,4 Nm                                             |
| Protection grade                         | IP20                                                |
| Flammability class                       | UL94V-0                                             |
| Weight                                   | 310g. approx.                                       |
| Operating temperature                    | -20°C...+55°C                                       |
| Storage temperature                      | -25°C...+80°C                                       |
| Relative humidity (without condensation) | <95%                                                |
| Setting values method                    | Fixed                                               |
| Standards                                |                                                     |
| Electrical safety requirements           | UNE-EN 61010-1                                      |
| Electrical safety requirements           | UNE-EN 61010-2-0081                                 |
| Electromagnetic compatibility (EMC)      | UNE-EN 61000-6-1                                    |
| Electromagnetic compatibility (EMC)      | UNE-EN 61000-6-3/A1                                 |
| European Directive                       | 2006/95/CE                                          |
| European Directive                       | 2004/108/CE                                         |
| Standard                                 | IEC-61557-8                                         |