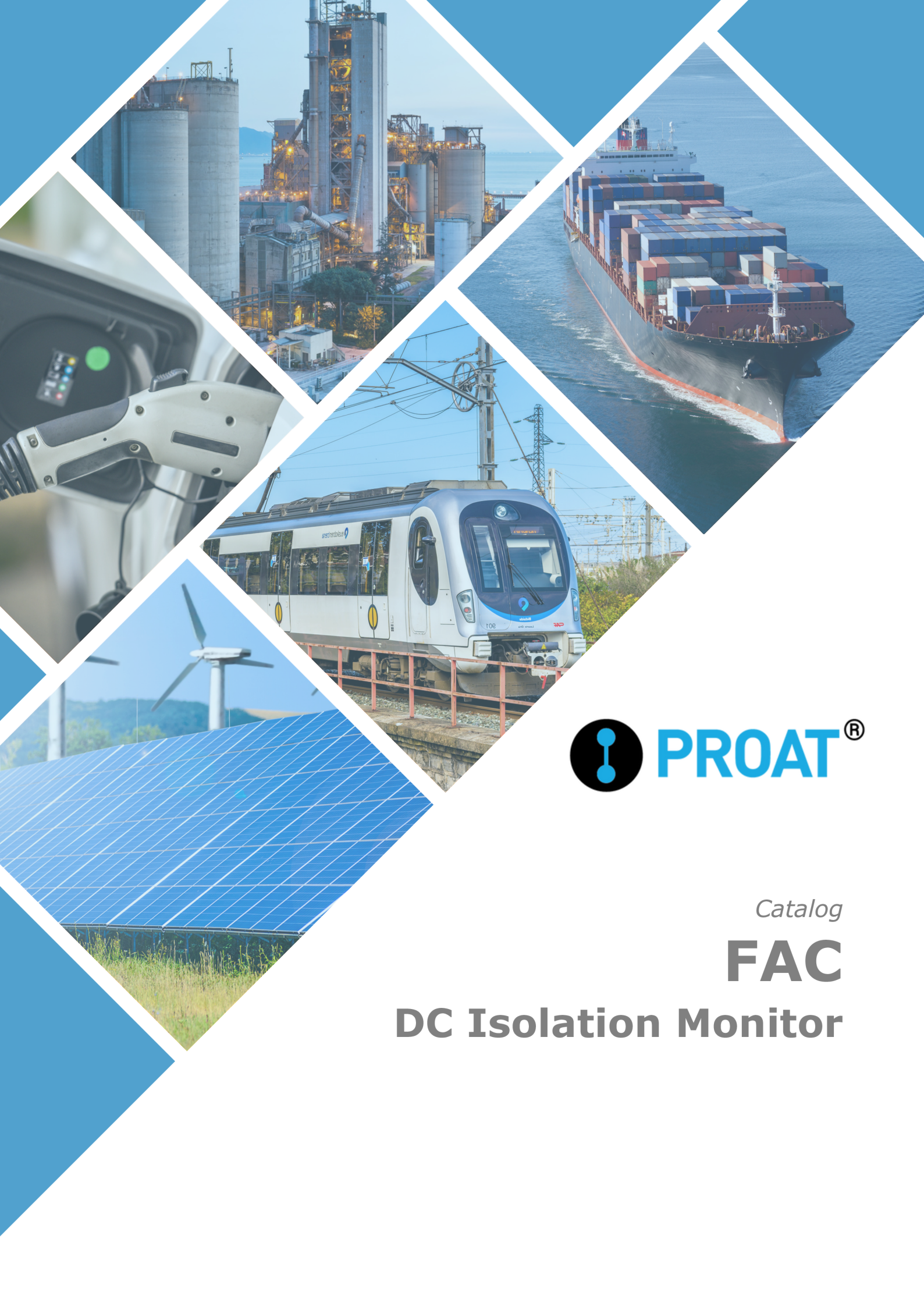




Catalog
FAC
DC Isolation Monitor

FAC

DC Isolation Monitoring

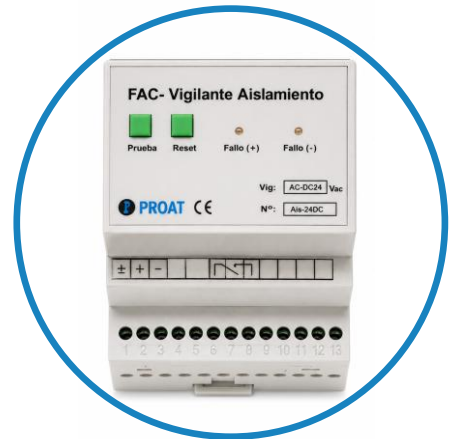
- ✓ **Detects insulation faults** between the (+) and (-) conductors and earth
- ✓ **Output relay** with potential-free changeover contact, depending on model
- ✓ **Self-powered** unit, no auxiliary power supply required
- ✓ For IT systems from **9 V_{DC} – 230 V_{DC}**, depending on model



Applications

Monitoring for earth faults in unearthed DC IT systems:

- Unearthed electrical installations
- Battery systems
- Systems with power converters, rectifiers or inverters
- Recreational craft and naval or military applications



Functional Features

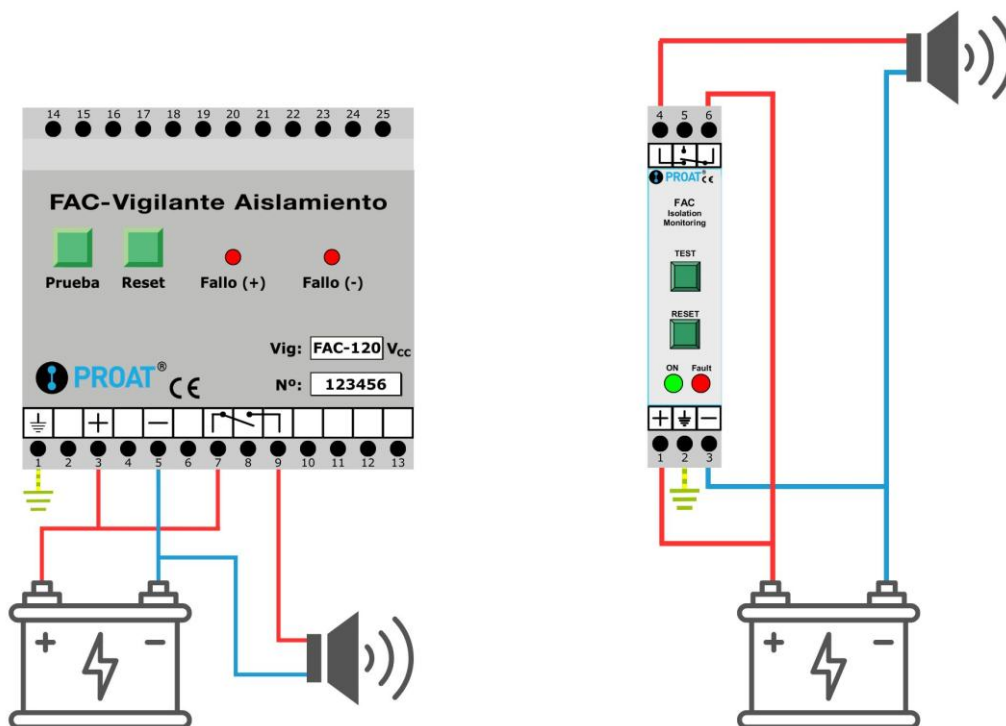
- Potential-free output relay for signalling the detected fault
- **TEST** pushbutton to simulate an earth fault on (+) and (-)
- **RESET** pushbutton to reset the unit and clear the fault
- LEDs for fault indication
- Self-powered from the monitored installation

Models

Model	Nominal Voltage U_N	Operating Range	Alarm Threshold	Power Supply	DIN Rail Width
FAC-12D	12 V _{DC}	9-18 V _{DC}	1 k Ω	Self-powered	1M – 18.5 mm
FAC-24D	24 V _{DC}	18-32 V _{DC}	1 k Ω	Self-powered	1M – 18.5 mm
FAC-48D	42 V _{DC}	36-55 V _{DC}	1 k Ω	Self-powered	1M – 18.5 mm
FAC-055	48 V _{DC}	24-55 V _{DC}	80 k Ω	Self-powered	4M – 71 mm
FAC-120	120 V _{DC}	60-138 V _{DC}	80 k Ω	Self-powered	4M – 71 mm
FAC-200	200 V _{DC}	100-230 V _{DC}	80 k Ω	Self-powered	4M – 71 mm

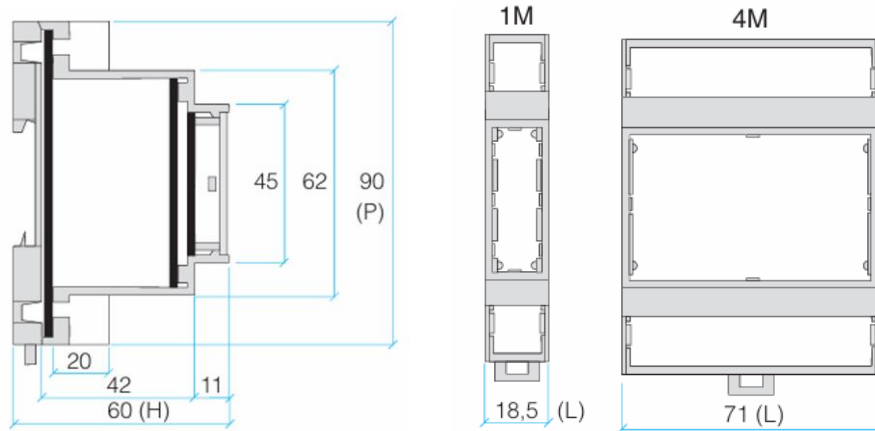
Conformal coating option by adding suffix **-T**
 *Other models can be manufactured on request

Wiring



Construction Features

- DIN rail mounting
- Front-accessible connection terminals
- Self-extinguishing plastic enclosure, UL 94 V-0 classification



Technical Data

MODEL **FAC-12D/24D/48D** **FAC-055/120/200**

Voltage Range		
Nominal voltage U_N	$U_N \pm 20\%$	$0.5 \cdot U_N - U_N + 15\%$
Maximum Power Consumption	$\leq 6 \text{ W}$	$\leq 6 \text{ W}$
Standby Consumption	$\leq 0.5 \text{ W}$	$\leq 0.5 \text{ W}$
Response Values		
Alarm Threshold	1 kΩ	80 kΩ
Measurement Error	$\pm 10\%$	$\pm 10\%$
Response Time T_R	$< 5 \text{ s}$	$< 100 \text{ ms}$
Fault Detection	Symmetrical	Single
Measuring Circuit		
Maximum voltage U_N	$U_N + 20\%$	$U_N + 15\%$
Internal Resistance R_+	$> 10 \text{ k}\Omega$	$> 56 \text{ k}\Omega$ ($V_N=120$)
Internal Resistance R_-	$> 10 \text{ k}\Omega$	$> 56 \text{ k}\Omega$ ($V_N=120$)
Minimum Impedance to Earth	$> 10 \text{ k}\Omega$	$> 300 \text{ k}\Omega$
Stray Capacitance	$< 5 \mu\text{F}$	$< 1000 \mu\text{F}$
Front View		
Power ON	Green LED	-
Fault	Red LED	-
Fault (+)	-	Red LED
Fault (-)	-	Red LED
TEST Pushbutton	Yes	Yes
RESET Pushbutton	Yes	Yes
Dielectric Test		
VDC Input - Output Contacts	3 kVRMS – 1 min	3 kVRMS – 1 min

Switching Elements	
Switching Elements	1
Output Type	FAC-12D/24D/48D – Changeover FAC-055/120/200 – NO Contact
Output Contact	Potential-free
Maximum AC Load	250 V _{AC} 2 A
Maximum DC Load	300 VDC 0.1 A
RL Switching Time	$< 10 \text{ ms}$
Service Life, Number of Cycles	20 000 000

General	
Operating Mode	Continuous
Mounting	DIN Rail
Connection	M2.5 Screw
Tightening Torque	$\leq 0.4 \text{ Nm}$
Degree of Protection	IP20
Conformal Coating (Optional)	IPC-CC-830B
Flammability Class	UL94 V-0
Weight	200 g / 310 g
Operating Temperature	-20°C to +55°C
Storage Temperature	-25°C to +80°C
Relative Humidity (Non-condensing)	$< 95\%$
Value Setting Method	Fixed

Standards	
Electrical Safety Requirements	UNE-EN 61010-1 UNE-EN 61010-2-081
Electromagnetic Compatibility (EMC)	UNE-EN 61000-6-1 UNE-EN 61000-6-3/A1
European Directives	2014/35/UE 2014/30/UE
Standard	IEC-61557-8