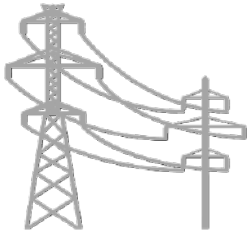


FIPRES

ELECTRICAL FIRE PREVENTION
AND OVERHEATING CONTROL
SYSTEM

Reference projects presentation

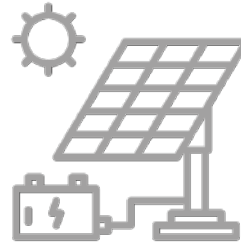
► FIPRES INDUSTRIES SEGMENTS FOR END-USERS



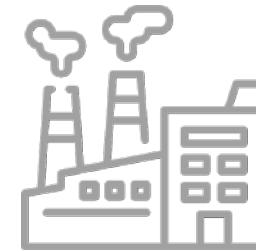
POWER TRANSMISSION
UTILITIES



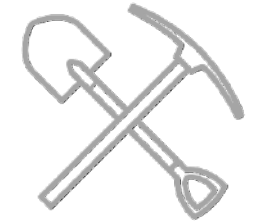
POWER PLANTS



RENEWABLE ENERGY
POWER PLANTS



INDUSTRIAL
FACTORIES



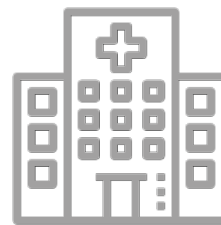
MINING,
OIL & GAS COMPANIES



PANEL BUILDERS



COMMERCIAL AND
RESIDENTIAL BUILDINGS



HOSPITALS



MALLS





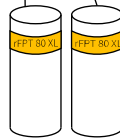
METRO STATIONS

► FIPRES REFERENCE PROJECTS



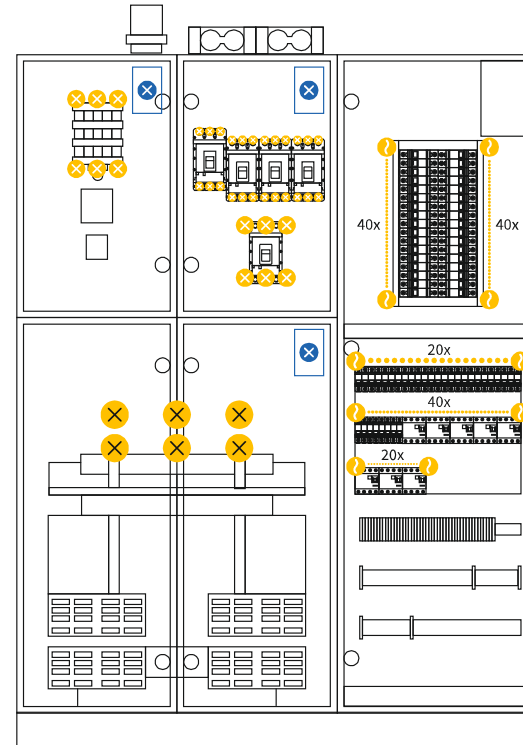
| Product | Qty |
|-------------|---------|
| rFPT 100/1 | 264 pcs |
| rFPT 80XL | 55 pcs |
| FPA 24 (4S) | 5 pcs |





-  corded sensor of FPA 24(4S)
-  rFPT 100/1



Field: Chemical manufacturing company

Turkey



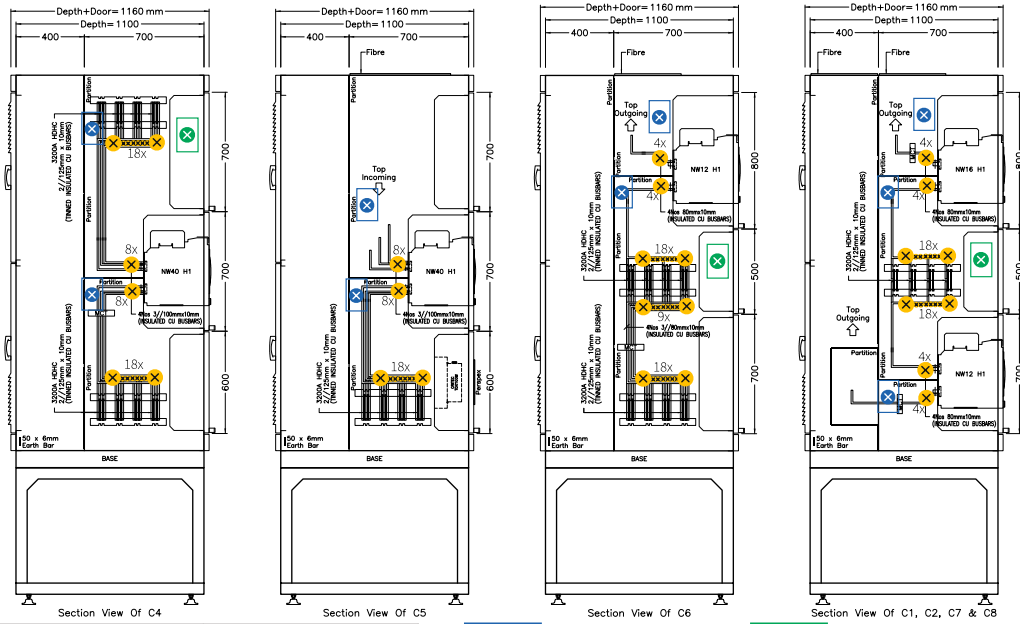
-  corded sensor of FPA 24(4S)
-  vFPT 90S
-  rFPT 100/0.3
-  rFPT 100 XL

| Product | Qty |
|--------------|---------|
| rFPT 100 XL | 6 pcs |
| rFPT 100/0.3 | 36 pcs |
| FPA 24 (4S) | 1 pcs |
| vFPT 90S | 160 pcs |

Field: Capacitor panel for a semiconductive plant

Taiwan

► FIPRES REFERENCE PROJECTS



| Product | Qty |
|-------------|---------|
| rFPT 100XL | 341 pcs |
| FPA 24 (4S) | 6 pcs |



corded sensor of FPA 24(4S)



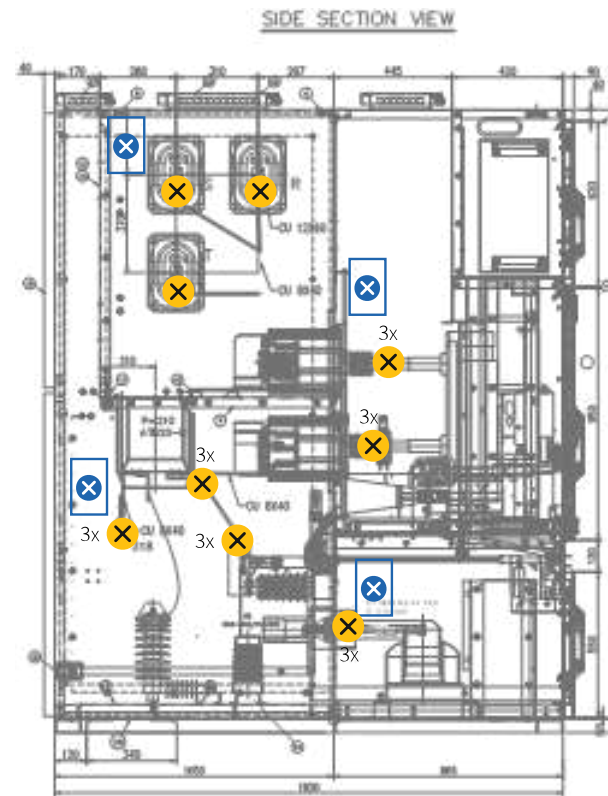
main body of FPA 24(4S)



rFPT 100 XL

Field: Data center

Singapore



corded sensor of FPA 24(4S)



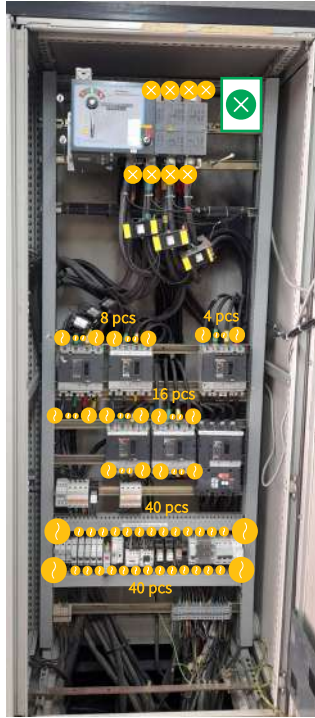
rFPT 100 XL

| Product | Qty |
|------------|--------|
| rFPT 100XL | 21 pcs |
| FPA 24(4S) | 1 pcs |

Field: Hotel

Peru

▶ FIPRES REFERENCE PROJECTS



- ✕ FPA 24/X
- ? vFPT 90S
- ✕ rFPT 100/1
- ✕ rFPT 100 XL

| Product | Qty |
|-------------|---------|
| rFPT 100 XL | 4 pcs |
| rFPT 100/1 | 28 pcs |
| FPA 24/X | 2 pcs |
| vFPT 90S | 212 pcs |

Field: Food processing plant

Morocco



| | |
|--|--|
| FPA 24(4S) – 1 pcs | FPA 24/X – 1 pcs |
| For this section FPA 24(4S) is okay. I can see 3 compartments on the photo. 1 corded sensor inside each compartment. | It depends on the volume of the panel. At glance, it looks like 1m ³ panel, so FPA 24/X located at the top part of panel is enough. |

- ✕ main body of FPA 24(4S) and FPA 24/X

Field: Power producer

Spain

► FIPRES REFERENCE PROJECTS



Field: Installation of vFPTs on the capacitor banks –
different fields

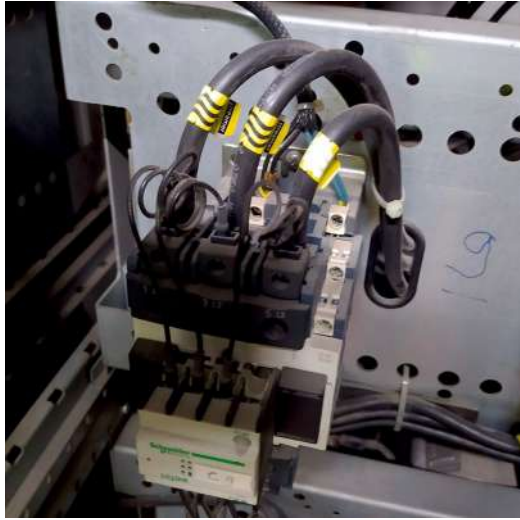
Morocco

► CLOSER LOOK: TURKEY, MEAT MANUFACTURING



| Company | Industry | Country | Protected object |
|--------------------------|--------------------|---------|--------------------------------|
| Senpolic Sakarya Factory | Meat Manufacturing | Turkey | Power Factor Correction panels |

► CLOSER LOOK: TURKEY, MEAT MANUFACTURING



Heating of live wires can be caused by:

- **overloading** above the permissible rated operating current or rated active power;
- **uneven distribution** of the load over the phases;
- **mismatch of operating conditions** in terms of temperature conditions of ambient air, malfunctioning of natural or forced ventilation, malfunctioning of air conditioning devices in enclosed spaces;
- **aging** of the cable insulation over time;
- **improper selection of equipment** due to incorrectly selected cable cross-section;
- presence of **internal hidden defects**.



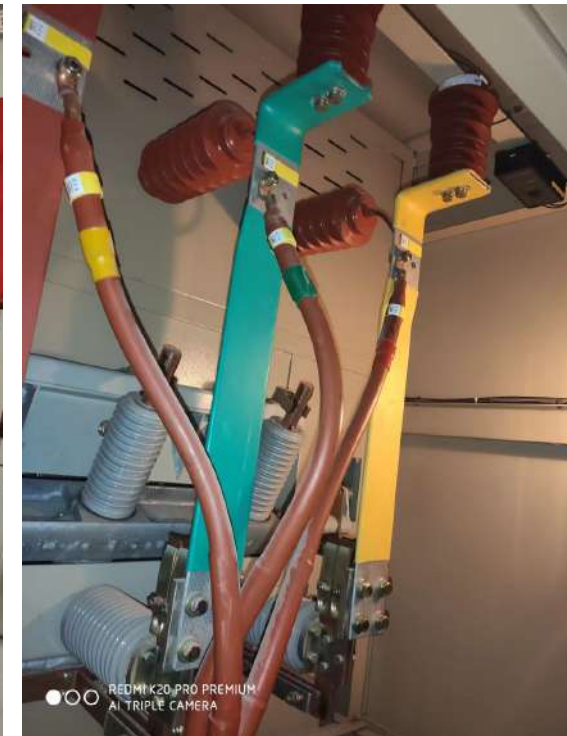
Actions for elimination of the defect:

- performing an **unscheduled IR** control of the elements of the electric power unit in order to clarify the degree of heating;
- setting the element to a **more frequent control** (reducing the frequency of visual inspections);
- taking measurements of load currents and **unloading** of electric installation or distribution of loads more evenly by phases;

The increase in operating temperature every 10 °C above the normal operating temperature of the capacitor cause the service life of the battery reduced by 2 times.

Due to overheating capacitor banks also might blow up and lead to all consequences of fire: threat to life, material damage, power supply interruption.

► CHINA, POWER DISTRIBUTION



| Company | Industry | Country | Protected object |
|--|--------------------|----------------|--|
| State Grid Qinghai Haibei Power Supply | Power distribution | Qinghai, China | High altitude installation in 10 kV Switchgear |

► ECUADOR, HYDRO POWER PLANT



| Company | Industry | Country | Protected object |
|-----------------------------------|-------------------|---------|-----------------------------|
| Central Hidroeléctrica Guangopolo | Hydro Power plant | Ecuador | MV Switchgear for generator |

► INDONESIA, POWER DISTRIBUTION



| Company | Industry | Country | Protected object |
|---------------------|--------------------|-----------------|---------------------|
| PLN Indonesia Power | Power distribution | Bali, Indonesia | 20 kV MV Switchgear |

► CLOSER LOOK: INDIA

Table – Main FIPRES installations in India

| Company | Industry | Country | Protected object |
|----------------------|----------------------------|---------|--|
| BPCL | Oil & Gas | India | 6.6 kV Feeder panels for VFD |
| IOCL Pipeline | Oil & Gas | India | 6.6 kV Distribution panels |
| JK White Cement | Cement | India | 440 V Distribution panels |
| Ultratech Cement | Cement | India | 11 kV Switchgear |
| Agrocel Industries | Chemical Manufacturing | India | 440 V Distribution panels |
| Galaxy Surfactants | Chemical Manufacturing | India | 440 V Distribution panels, Motor Terminals |
| Kirloskar Oil Engine | Diesel Engine Manufacturer | India | 440 V Distribution panels |
| TATA Power | Power transmission utility | India | 440 V Distribution panels |
| Ramco Cements | Cement Plant | India | 440 V Distribution panels |
| Adani solar | Solar power plant | India | Combiner boxes of solar plant |
| Adani Transmission | Power distribution | India | 440 V AC Distribution panels |

► CLOSER LOOK: INDIA, SOLAR POWER PLANT



| Company | Industry | Country | Protected object |
|-------------|-------------------|------------------|---|
| Adani solar | Solar power plant | Rajasthan, India | Combiner boxes of photovoltaic plants of power 350 MW, 250 MW, 390 MW, 300 MW |

► CLOSER LOOK: INDIA, SOLAR POWER PLANT



FIPRES is installed in combiner boxes of 5 PV plants using FPA 24(4S) and rFPT 130XL. A total of 54 panels are equipped with FIPRES.

The dry contact output is connected to CB so that after detection of overheating the panel got tripped.

The client has already faced problem with blowing combiner boxes that led to stop of production of the whole PV plant.

► CLOSER LOOK: INDIA, SOLAR POWER PLANT



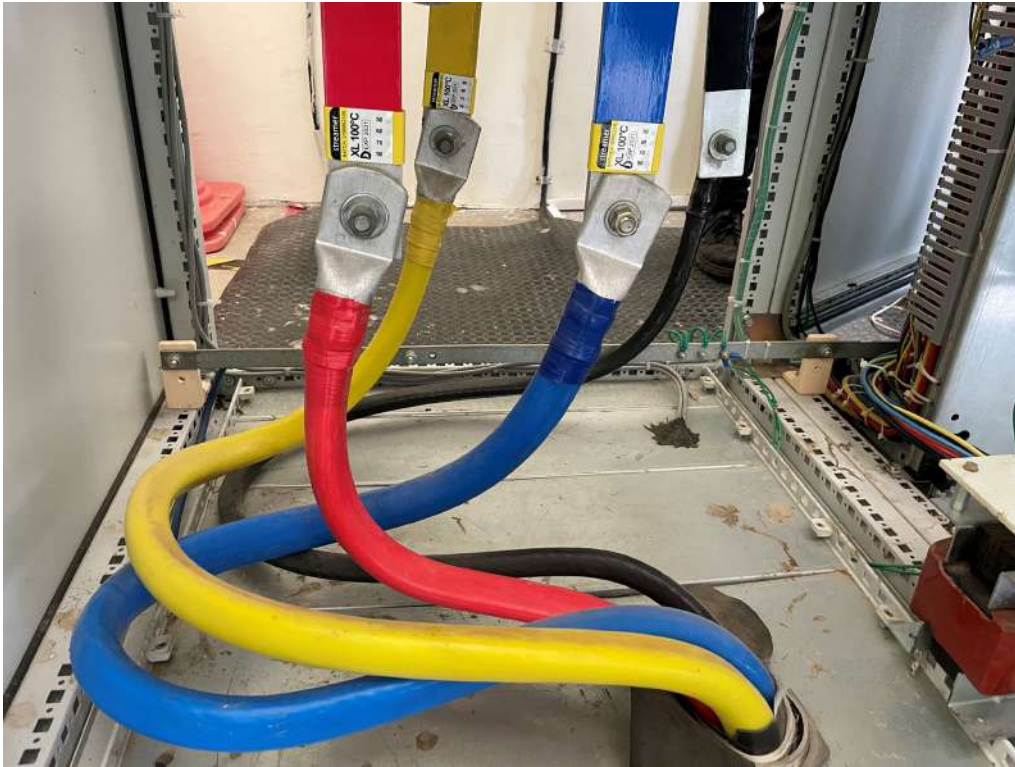
The information received by client:

- The panels **were not designed** to be installed in such extreme conditions as Rajasthan, the hottest state in India, where 50 degrees is an average temperature.
- Due to **bimetallic connection** between cable and insulated pin lugs, all connections were prone to overheating.
- Some of the connections were **loosened** due to improper torque.
- On some of the panels there were **no shade** to cover the panel.
- There was **no clearance** between two adjacent panels.

Actions to be taken:

- The panel design will be reconsidered to meet the environmental conditions.
- All contact connections with bimetallic connections will be changed to one metal connection.
- Tighten all contact connection.
- The clearance between two panels will be increased.
- The shade will cover all combiner boxes.

► CLOSER LOOK: INDIA, POWER DISTRIBUTION



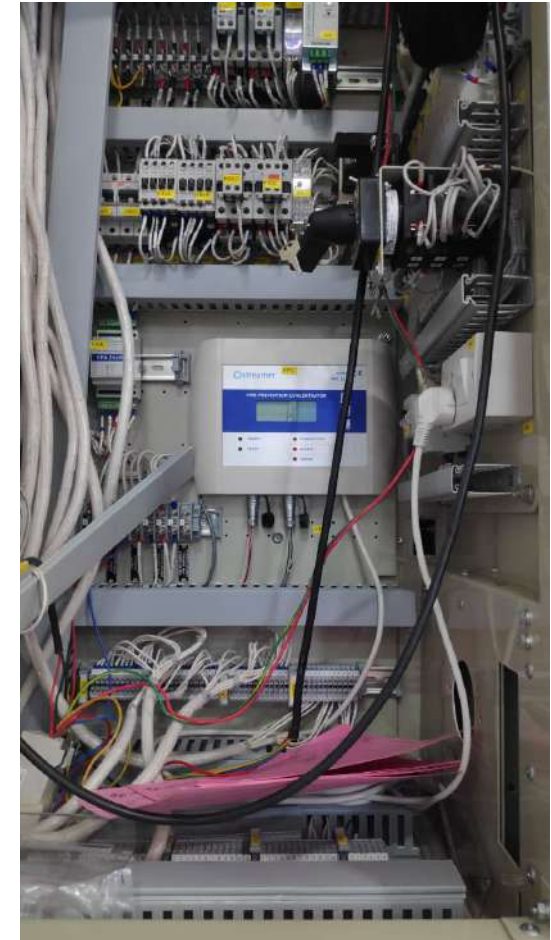
| Company | Industry | Country | Protected object |
|--------------------|--------------------|-------------|------------------------------|
| Adani Transmission | Power distribution | Kota, India | 440 V AC Distribution panels |

► CLOSER LOOK: INDIA, POWER DISTRIBUTION



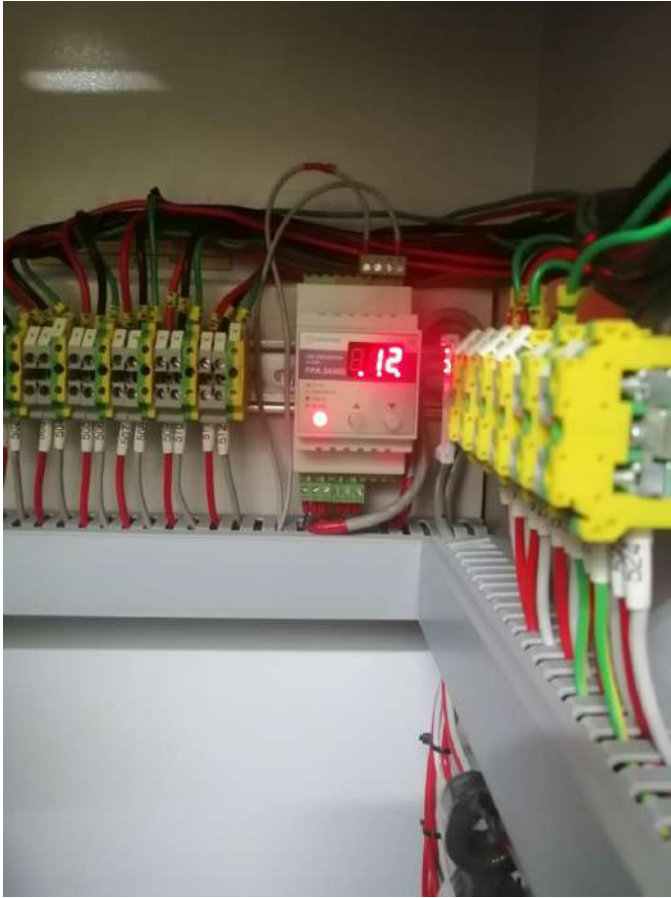
| Company | Industry | Country | Protected object |
|------------|--------------------|---------|------------------------------|
| TATA Power | Power distribution | India | 440 V AC Distribution panels |

► CLOSER LOOK: INDIA, OIL & GAS



| Company | Industry | Country | Protected object |
|---------|-----------|---------|------------------------------|
| BPCL | Oil & Gas | India | 6.6 kV Feeder panels for VFD |

► CLOSER LOOK: INDIA, PHARMACEUTICAL



| Company | Industry | Country | Protected object |
|---|----------------|-------------|----------------------------|
| BMC (The Brihanmumbai Municipal Corporation) | Pharmaceutical | Kota, India | 415 V Isolated power panel |

► CLOSER LOOK: INDIA, CHEMICAL MANUFACTURING



| Company | Industry | Country | Protected object |
|-----------|------------------------|---------|------------------|
| Colourtex | Chemical Manufacturing | India | 11 kV Switchgear |

▶ FIPRES BUSINESS CASES



▶ TOTAL

100 industrial plants

250 buildings (offices, schools, hospitals)

1M stickers have been produced

CLICK ON THE ICONS TO
VISIT OUR SOCIAL NETWORKS

 /jayessspvtltd
 /jayessspvtltd



LEARN MORE ABOUT THE PRODUCT ON THE
WEB-SITE SECTION DEDICATED TO FIPRES




ALSO CHECK OUT OUR 8 MINUTES
CARTOON ABOUT FIPRES ON YOUTUBE



Authorized Distributor in Pakistan

JayEsss
Private Limited

 +92 303 9722 204  www.JayEsss.com  Info@JayEsss.com

Karachi Office :

C T Tower, Building # 58 - C,
11th Commercial Street,
DHA Phase II Extension,
Karachi - 75500

Islamabad Office :

45,
Bhittai Road,
F - 7 / 1,
Islamabad, Pakistan

Lahore Office :

66 - P, Mini Market,
Gulberg II,
Lahore, Pakistan