

The Thermal imaging camera TIC – PM10 is an equipment belonging to the I group M1 category. It has been designed to be used in hard environmental conditions in mining companies.

The device allows constant analysis of the surrounding, temperature anomaly detection, which, when diagnosed too late, can cause interruptions of production.

It can work in explosive atmosphere in underground mining plants:

- ***where there is no methane „a” explosion hazard,***
- ***with methane "b" or "c" explosion hazard,***
- ***with class A and B coal dust explosion hazard.***

Implementation

- controlling the heating of equipment, ventilation equipment,
- controlling the heating of the tape and components for conveyors when transporting excavated material,
- controlling machines (to detect overheating of components, bearings)
- thermal diagnostics of electric devices (such as transformers, cables, motors, pumps)
- searching for potential fire ignitions of coal dust and methane,
- detecting hot spots of deposits (prevention, while extracting coal)
- detecting anomalies of temperature (cold and warm places in the environment)
- helping rescuers involved in rescue operations.

Characteristics

- portable version of intrinsically safe infrared camera built for use in difficult environments found in mines,
- the camera can work in any concentration of methane,
- the camera has an EC Type Examination Certificate type examination certificate, TEST 15 ATEX 0022
- the camera casing is made of plastic with high resistance to mechanical shock,
- the camera has a special sputtered layer on the optics window which protects it from scratches, e.g. by coal dust,
- infrared resolution 80x80, interpolated up to 240x240
- thermal sensitivity $\leq 100\text{mK}$
- infrared field of view 23.3°
- temperature measurement -20 ... +350 ° C
- long battery life (8 hours)
- operating temperature range -10 ... + 40 ° C,
- compact dimensions of 208x115x60mm,
- low weight 0.55kg,
- increased degree of casing protection IP67,
- light, handy, and easy to use,
- stores in memory infrared photos of observed scenes,
- stores in memory images of observed scenes in visible light,
- allows to determine the temperature of the object viewed in any of its points
- dedicated for services in ventilation, emergency, supervision in the mine and for less advanced users,
- dedicated communication software and camera control as well as viewing and analyzing images.

