

ATEX protection housings

For DIAS infrared cameras and pyrometer in explosive environments

Whenever flammable materials are manufactured, processed, stored, transported or loaded, potentially explosive environments may arise. Such endangered places are found for example in the chemical, wood, pharmaceutical and textile industries, but also in mining and in warehouses for grain or other fine dusty materials.

Gas, mist, vapor or dust are explosive substances which, in combination with oxygen and an ignition source, may cause an explosion. Ignition sources can range from sparks, arcs, hot surfaces, flames and hot gases to lightning strikes, electromagnetic waves, electrical equipment and static electricity.

For the use in those explosive environments there are ATEX protection housings that allow the operation of DIAS infrared cameras and pyrometers.

ATEX housings for wavelength range 8 μm to 14 μm (LWIR)

There is an ATEX housing in pressure-resistant casing for the integration of LWIR infrared cameras (PYROVIEW 380L, PYROVIEW 640L) and LWIR pyrometers (PYROSPOT DY 10L, PYROSPOT DT 44L) available:

- Part number for infrared cameras: 2301A05020
- Part number for pyrometers: 3301A23110

The housings meets the two specifications:

II 2G Ex db IIC T6 Gb

II 2G	A place in which an explosive atmosphere consisting of a mixture with air of dangerous substances in the form of gas, vapor or mist is likely to occur in normal operation occasionally.
db	Flameproof enclosure for ATEX zone 1
IIC	Explosive gas atmosphere group II, most hazardous subdivision (hydrogen)
T6	Gas temperature class 6, maximum surface temperature 85°C
Gb	Equipment protection level (EPL): Equipment with a high protection level for use in hazardous areas which represents no risk of ignition in normal operation or in the event of predictable faults/malfunctions.

II 2D Ex tb IIIC T85°C Db, Ta –40 °C to 60 °C

II 2D	A place in which an explosive atmosphere in the form of a cloud of combustible dust in air is likely to occur in normal operation occasionally.
tb	Protection via enclosure for ATEX zone 1
IIIC	Explosive dust atmosphere group III, most hazardous subdivision (conductive dust)
T85°C	Maximum surface temperature 85°C
Db	Equipment protection level (EPL): Equipment with a high protection level for use in hazardous areas which represents no risk of ignition in normal operation or in the event of predictable faults/malfunctions.
Ta	Ambient temperature –40 °C to 60 °C

The housing has an integrated heater and an optional sunshield. The use is possible indoors and outdoors. The power supply is 230 V AC. The housing has a germanium window (diameter 56 mm, thickness 10 mm, inner and outer antireflection coating, outer coating scratch-proof/hard carbon coating, transmission optimized for 7.5 μm to 14 μm).

The camera can be mounted in any position in the housing. The camera data is transmitted via an Ethernet interface. In accordance with ATEX regulations, it must be possible to switch off the power supply via a disconnecter.

For measuring data output the RS-485 interface and the current output are available for the pyrometer.



ATEX protection housings

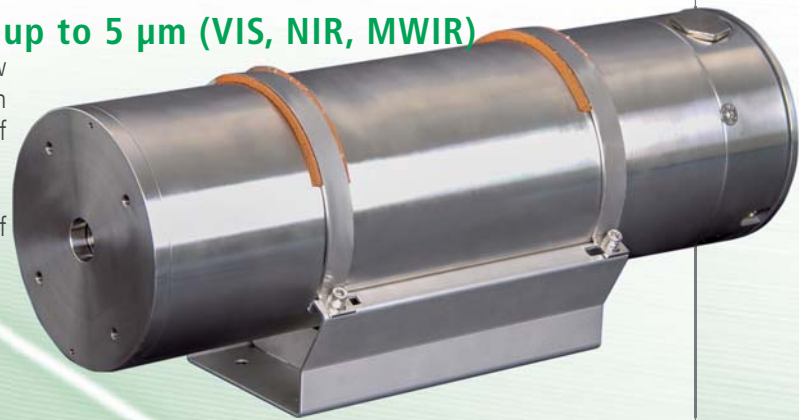
For DIAS infrared cameras and pyrometer in explosive environments

ATEX housings for wavelength ranges up to 5 μm (VIS, NIR, MWIR)

There is a further ATEX housing with integrated sapphire window (part number: 3310A23100) available for DIAS pyrometers within the NIR and MWIR spectral ranges. It provides in principle the use of pyrometers with integrated video camera.

The housing is suitable for the following PYROSPOT pyrometers of series 10 and 44:

- PYROSPOT Series 10: DS 10N, DG 10N, DGE 10N, DP 10N, DY 10F, DPE 10MF, DPE 10M, DSR 10N, DSR 10NF, DGR 10N
- PYROSPOT Series 44: DS 44N, DG 44N, DGE 44N, DT 44F, DSR 44N



The protection housing meets the specifications:

II 2G Ex d e IIC T5 Gb, Ta -20°C to 60°C

II 2G	A place in which an explosive atmosphere consisting of a mixture with air of dangerous substances in the form of gas, vapor or mist is likely to occur in normal operation occasionally.
d	Flameproof enclosure
e	Increased safety (terminal and junction box, component of the flameproof enclosure)
IIC	Explosive gas atmosphere group II, most hazardous subdivision (hydrogen)
T5	Gas temperature class 6, maximum surface temperature 100°C
Gb	Equipment protection level (EPL): Equipment with a high protection level for use in hazardous areas which represents no risk of ignition in normal operation or in the event of predictable faults/malfunctions.
Ta	Ambient temperature -40 °C to 60 °C

The housing has a stepped integrated connection box, which allows the connection cable to be connected when it is switched off. Therefore, no terminal box is required for this housing.



Accessories

There are different accessories available for the LWIR housing:



Wall mounting, part number 2301A05110



Swivel, together with pillar mounting part number 2301A05111



Terminal box, part number 2301A05210



Mast mounting adapter, together with wall mounting arm, part number 2301A05112



Pillar mounting



Media box, part number 2301A05220

Hybrid cables are available for both housing types.



We are certified for many years according to ISO 9001

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