

Stainless Steel Lumiglas Luminaire Series REL01, REL01-Ex EEx ia II C T4/T5/T6

DATA SHEET 07.80

For rectangular sightglass units.

The REL unit has been designed to fit snugly into the side of rectangular/longitudinal sightglasses so that they function as combined light and sight glass providing for ideal observation of liquid level.

LUMIGLAS offers this STAINLESS Steel unit for use both in explosion hazardous areas and normal operating areas.

The Lumiglas luminaire series REL01/REL01-Ex comes complete ready for fitting; 2 screws enable it to be bolted straight onto the cover flange of the longitudinal sightglass.

Compact, high light output, minimal energy consumption.

21 special LEDs provide dazzle free illumination. They and the requisite electronic switchgear are resin cast into the stainless steel housing of the luminaire. The operating life of the luminaire is virtually limitless; even if one diode should fail after a long period of operation, the remainder still provide more than adequate light intensity.

Application

For use with rectangular/longitudinal sightglasses fitted to bio-reactors, laboratory mixers, filters and generally all closed tanks and vessels operating in Zones 1 and 2 (to IEC 79-10) of Ex hazardous areas as well as in non hazardous areas.

Suitable for use in food processing.

Protection

When correctly installed, dust and water spray tight to IP65 to EN 60529/DIN VDE 0470 part 1.

Operating conditions

- Independent of vessel pressure/vacuum.
- Max. permissible ambient temperature 80° C when used in non Ex areas.
- When used in Ex areas, max. permissible ambient temperature will depend on power rating temperature class between 40° C and 60° C.
- Ex conformity Certification: Test station DMT: **BVS 98.E.2068 x**.

Ignition protection

- EEx ia II C T4/T5/T6 – intrinsically safe.
- To EN 50014 – 1992 and EN 50020 – 1994.
- Explosion group: II C (all explosion classes).
- Temperature class: up to T6 (depending on power).



Stainless Steel Lumiglas Luminaire model REL01 mounted on a cover flange of a rectangular sightglass fitting – side view.

Electrical data and components; general

- Supply: AC or DC
- Operating voltage: 24 V
- Power consumption: max. 2 W

The Lumiglas luminaire REL01 is supplied complete with 3 m connecting cable, 3 x 0,75 mm², temperature resistant -10° C to + 90° C.

Electrical data for use in Ex hazardous areas:

The Lumiglas Luminaire REL01-Ex can be operated through requisite series connected auxiliary power circuits (see adjoining diagram).

Power circuit:

Voltage	U_i	UC 30V
Current	I_i	250 mA
Power	P_i	see „Temperature Class“ table

Internal effective Capacitance	C_i	negligible
Internal effective Inductance	L_i	negligible

Temperature class relationship to ambient temperature:

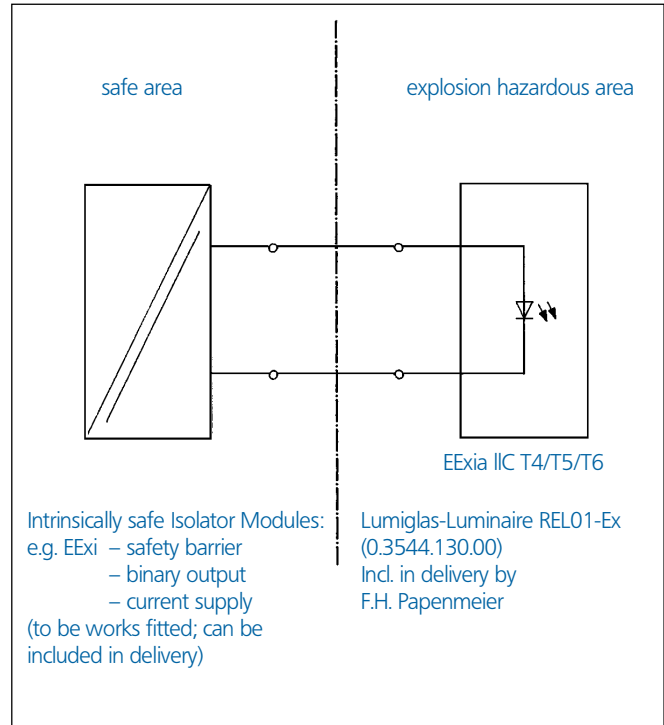
Temp. Class	max permissible ambient temp T_a	power consumption P_i
T1 to T4	60° C	2.0 W
T5	60° C	1.5 W
T6	40° C	1.0 W

Special impositions and conditions for safe operation:

The light emitting diode module type REL01-Ex is suitable for use in ambient temperatures of -5° to +60° C.

The light emitting diode module type REL01 should be fitted onto or into a housing which provides protection at least to IP 20 according to IEC-publication 529 for Light Emitting Diode Lines.

The installation of the LED module type REL01 must be such that an air gap of at least 3 mm is left between the intrinsically safe circuit and metallhousing parts or in the case of connecting components or bare parts of non intrinsically safe circuits in other components (power supplies) a gap of at least 50 mm or that they be separated by a separating wall conforming to 6.3.1 of EN 50020.



Front view rectangular sightglass 250 mm long with side mounted Lumiglas Luminaire REL01.

Components and materials of construction:

- Luminaire body and securing parts: stainless steel 1.4301
- Resin compound: Silikon rubber
- Ordering codes
example: Lumiglas Luminaire type REL01 or REL01-Ex,
Part No. 3544.130.00

Where the luminaire is to be used in explosion hazardous areas, connection must be to an intrinsically safe power supply circuit. If required we can supply appropriate components.

Simplified installation by means of integral carrier plate provided:

The Lumiglas luminaire is supplied with an integral carrier plate or flange with elongated 60 mm holes at its upper and lower ends; this allows some leeway in flange length for drilling and tapping two corresponding holes in the cover flange for the two M4 fixing screws as well as flat and spring washers provided for easy and permanently secure fitting (see page 4).

To maximise the lighting effect and avoid dazzle, a matching reflector plate is also provided with the REL01 unit; this should be fitted on the opposite flange side.

After mechanical installation, the unit is ready for electrical connection.

The Luminaire is designed for use with 250 mm rectangular longitudinal sightglasses. For longer sightglasses additional REL01 units can be fitted for each additional 250 mm length.

The effective vertical range of level observed may well lie within 250 mm and the need for extra units is therefore a purely operational decision.



Lumiglas Luminaire model REL01, luminary side

