

## DA180 Giant LED Cluster

### Description

The DA180 range of Giant LED Clusters provides extremely clear indication of process conditions for use in both safe and hazardous area. The 66mm diameter lens not only provides clear indication from a distance but is also visible from the side. Available in a choice of six colours (red, green, yellow, amber, blue and white), the DA180 is a perfect choice for many visual warning tasks.

All colours are matched for equal brightness and all are current limited to 20mA with an integral regulator. The standard LED Cluster can also be supplied pre-installed in a stainless steel or polycarbonate box ready for immediate mounting on-site.

### Installation

In hazardous areas the LED lamps must be powered through suitable intrinsically safe isolators or barriers. In hazardous areas it is possible to combine LEDs from a single IS interface, two for IIC interfaces and four with a IIB interface.

To illuminate the lamp, connect X1 to positive and X2 to negative. If these are connected incorrectly the lamp will not illuminate but will not be damaged in any way, simply reverse the two connections.

### Mounting the clusters

Mounting details are shown in figure 1 and 2. Clusters can be mounted in any instrumentation panel with a thickness up to 5mm.

- Punch or drill an appropriate diameter hole in the panel for each cluster. To prevent rotation and to ensure IP rating is not compromised add a notch detailed below.

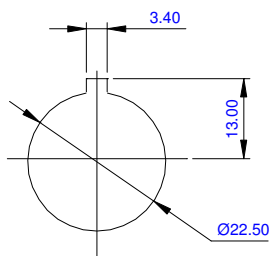


Figure 1- DA180 Cut-out Details

- Ensuring the gasket goes between the DA180 and the panel, and the notch lines up with the cut out locate the plastic locking ring over the base and lock into place by twisting nut until tight.

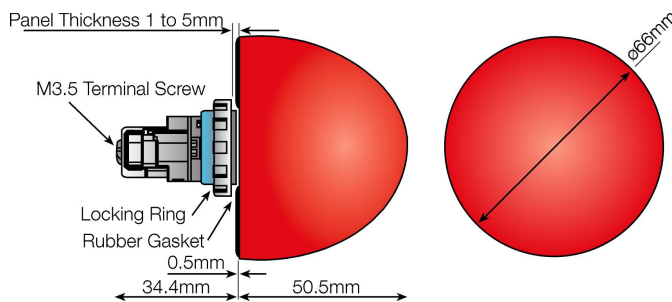


Figure 2 – Mounting details

## Hazardous area use

The LED lamps must be powered through suitable intrinsically safe isolators or barriers. Up to two LED lamps can be driven from a single IIC interface.  
The LED lamp must be protected to IP20 minimum once installed.

## Specification

### HAZARDOUS AREA USE

#### Certification

ATEX certified to EN60079-0:2006 and EN60079-11:2007  
Group II, Category 2G



II 2G Ex ia IIC T4 (Ta -20°C to 60°C)

#### Location

Zones 1 and 2, Gas Groups IIC, IIB and IIA,  
Temp Class up to T4

#### Certificate number

KEMA07ATEX0204X

#### Safety Parameters

Only for connection to certified intrinsically safe circuits with the following maximum values:

$U_i = P_i/I_i$  for a supply circuit with non-linear current limiting

$U_i = 4P_i/I_i$  for a supply circuit with linear current limiting

$P_i = 1W$

$I_i = 2A,$

$C_i = 0nF \quad L_i = 0mH$

#### Supply

With suitable certified interface 18-35VDC, current 20mA

#### Recommended Interfaces

Zener Barriers: MTL7728P+

IS Isolators: MTL5521

#### Environment

Operating temperature: -20°C to +60°C

Storage temperature: -20°C to +80°C

Humidity: 0-95% RH, non-condensing

#### Compliance

Immunity to EN61000-6-2:2005

Emissions to EN61000-6-4:2007

## Safe area use

A power source of 14-26VDC is applied to the LED lamp in order to illuminate the LED lamp.

### SAFE AREA USE

#### Power supply requirements

Direct connection: 14-26VDC

Current consumption: 20mA maximum per lamp

#### Environment

Operating temperature: -20°C to +60°C

Storage temperature: -20°C to +80°C

Humidity: 0-95% RH, non-condensing

### GENERAL

#### High Reliability

All LED Lamps are designed to provide a minimum of 100,000 hours service life (continuous illumination at 40°C ambient temperature)

#### Colours

The DA180 Series of Giant LED Cluster are available in six super-bright colours. Colours are red, orange, yellow, green, blue and white

#### Construction

Lens - Polycarbonate

#### Protection

IP65 when panel mounted, IP20 from the rear

#### Connections

Screw terminals for cable 0.5–2.5 mm<sup>2</sup>

#### Mounting

22.5mm diameter hole

85mm apart

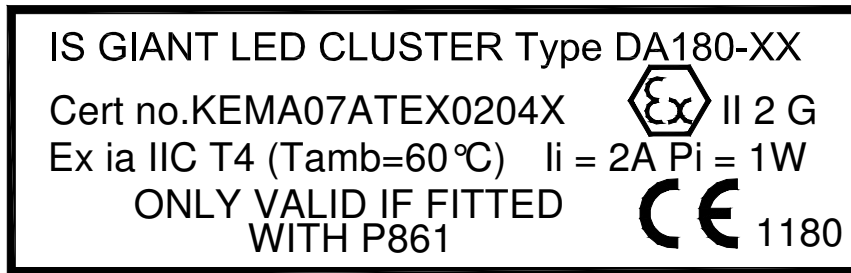
## Special conditions for safe use

### Giant LED Cluster of the DA180 series

When more than one Giant LED Cluster of the DA180 series is mounted on an enclosure or the enclosure contains also other circuits, the enclosure shall provide a degree of ingress protection in accordance with EN 60529 suitable for the applicable environmental conditions and comply with EN60079-0 and EN60079-11

### Labelling

The certification label can be found on the body of the DA180 Housing.



The unit also has a serial number label which will be attached to the underside of the dome.

*Due to our policy of continuous product development, we reserve the right to amend these specifications without notice.*

## EC DECLARATION OF CONFORMITY

This is to certify that the DA180 Giant LED Cluster

Manufactured by:-

**RTK INSTRUMENTS LTD  
ST JAMES BUSINESS PARK  
KNARESBOROUGH  
NORTH YORKSHIRE  
HG5 8PJ**

Conforms to the protection requirements of the following directives:

- Council directive 89/336/EEC (EMC Directive) to BS EN 61000-6-4 and BS EN 61000-6-2
- Council Directive 94/9/EC (ATEX Directive) to EN60079-0 and EN60079-11

The product is certified to:



II 2 G Ex ia IIC T4

Certificate No: KEMA07ATEX0204X

The Quality System is certified and monitored by Baseefa Ltd, Rockhead Business Park, Staden Lane, Buxton, Derbyshire, SK17 9RZ

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**PAUL HARTLEY - MANAGING DIRECTOR**

Date: 12<sup>th</sup> March 2008

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**RTK**  
INSTRUMENTS

REV	Detail of Change	Date
0	Original Issue	28/02/08

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