Operating Instructions

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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.
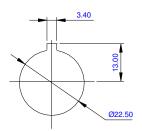

Figure 1- DA180 Cut-out Details

• 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.
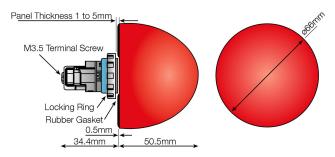

Figure 2 – Mounting details

ISO 9001
FM 14290

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

⟨Ex⟩ 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
$P_i = 1W$
$I_i = 2A$,
$C_i = 0nF$ $L_i = 0mH$

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 EN6100-6-4:2007

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^2

Mounting
22.5mm diameter hole
85mm apart

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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.

IS GIANT LED CLUSTER Type DA180-XX

Cert no.KEMA07ATEX0204X ⟨Ex⟩ II 2 G

Ex ia IIC T4 (Tamb=60°C) I_i = 2A P_i = 1W
ONLY VALID IF FITTED
WITH P861 $C\!\epsilon$ 1180

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.

Manufacturers of
Alarm Annunciators and Systems | Sequential Event
Recorders | Display Facias | Hazardous Area Interface,
Alarm and Display Products | Signal Conditioning &
Trip Amplifiers | Process Instrumentation

ISO 9001
FM 14290

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:

⟨Ex⟩ II 2 G Ex ia IIC T4

Certificate No: KEMA07ATEX0204X

The Quality System is certified and monitored by Baseefa Ltd, notified Body number 1180, Rockhead Business Park, Staden Lane, Buxton, Derbyshire, SK17 9RZ.

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PAUL HARTLEY - MANAGING DIRECTOR
Date: 12th March 2008

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REV	Detail of Change	Date
0	**Original Issue**	28/02/08
1	**Baseefa notified body number added and declaration updated**	01/12/09