

TEST REPORT

IP66 TESTS ON PANEL MOUNTED DISPLAY WITH INTEGRAL KEYPAD

Prepared for:

BEKA Associates Ltd
Old Charlton Road
Hitchin
Hertfordshire SG5 2DA
UNITED KINGDOM

Project ID: 3022966
Class: 3810
Date: March 25 2005

**IP66 TESTS ON PANEL MOUNTED DISPLAY
WITH INTEGRAL KEYPAD**

from

**BEKA Associates Ltd
Old Charlton Road
Hitchin
Hertfordshire SG5 2DA
UNITED KINGDOM**

I INTRODUCTION

- 1.1 BEKA Associates Ltd. (manufacturer) requested confirmation of the IP66 rating on their Panel Mounted Display with integral keypad.
- 1.2 This Report may be freely reproduced only in its entirety and without modification.
- 1.3 **Standards**

Title	Standard Number	Date
Degrees of protection provided by enclosures (IP Code)	IEC 60529	1989
	Inc amendment 1	1999

II DESCRIPTION

- 2.1 The enclosure is for use with panel mounted displays similar but not limited to the BA369C, BA458C, BA488C, BA488CF, BA658C, BA688C and BA688CF.
- 2.2 Installation and mounting arrangements are described on BEKA associates drawing number CI100-03 revision 1.

III EXAMINATIONS AND TESTS

3.1 **Environmental protection** - The following testing verified the IP66 rating for the front of the panel mounted display with integral keypad. A representative sample of the display was mounted in a test enclosure intended to simulate a panel mounted display in accordance with the manufacturer's instructions. Testing was conducted under project ID 3022662.

- 3.1.1 **Protection from the Entry of Water (IPX6)** – A hosedown test was conducted to verify the IPX6 rating requested by the manufacturer. The sample was subjected to a stream of water from a hose with a 12.5 mm diameter nozzle and delivering at least 100 litres/minute. The water was

directed at the enclosure's front panel from a distance of 2.5 to 3.0 metres for at least three minutes. The tests results were satisfactory in that the enclosure excluded the entry of water.

- 3.1.2 **Protection from the Entry of Dust (IP6X)** – A dust exclusion test was conducted to verify the IP6X rating requested by the manufacturer. The sample enclosure was suspended in a circulating dust atmosphere while connected to a vacuum pump adjusted to draw a vacuum of at least 20 mBar on the sample. The test duration was 8 hours. At the conclusion of the test, excess dust was removed from the enclosure exterior surface and the sample opened. The test results were satisfactory in that the enclosure had excluded the entry of dust.

VIII DOCUMENTATION

The following drawings describe the mounting arrangement..

Drawing No.	Issue	Description
CI100-03	1	Enclosure Drawing for IP66 Panel Mounting Products with Integral Keypads

IX CONCLUSION

The panel mounted display housing tested in this report complies with the requirements of IEC 60529:1989 including amendment #1, Degree of protection provided by enclosures

EXAMINATION AND TESTING BY: N. Ludlam, C. Burch.

ATTACHMENTS: Enclosure Drawing CI100-03 Issue 1

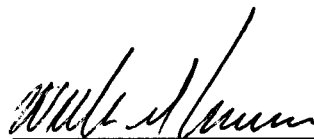
PROJECT DATA RECORD: 3022309

REPORT BY:



Nicholas P. Ludlam
Senior Engineering Specialist
Hazardous Locations

REPORT REVIEWED BY:

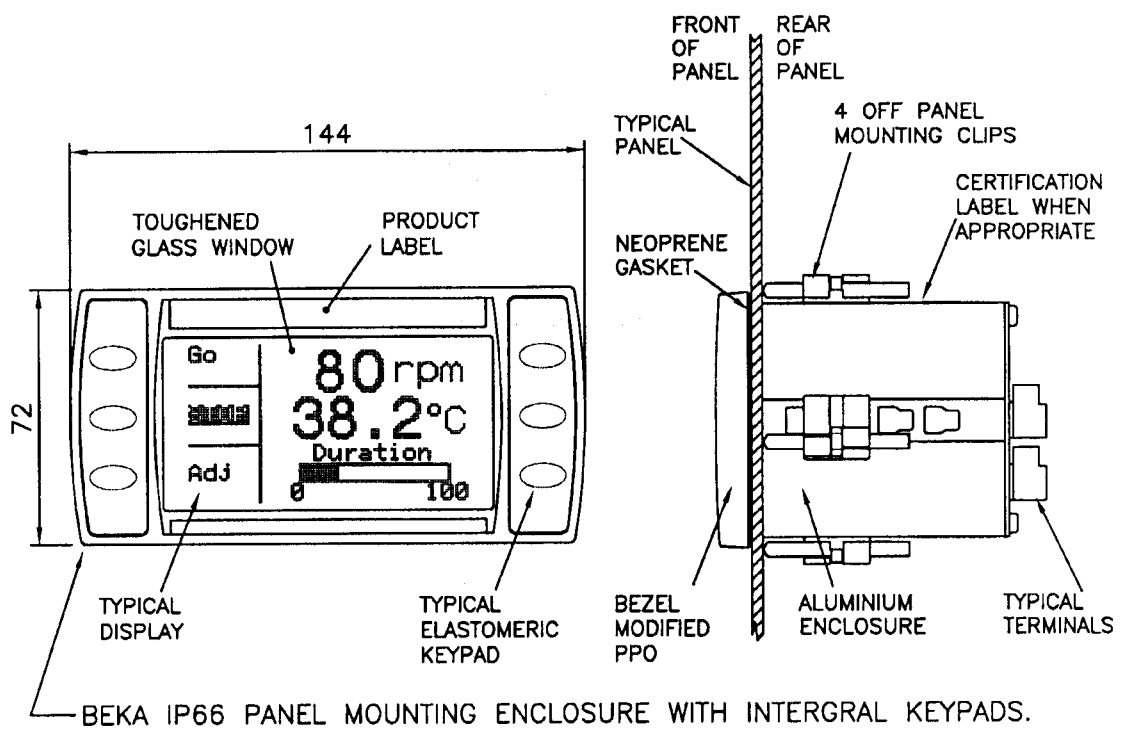


William G. Lawrence, P.E.
Senior Engineering Specialist
Hazardous Locations

Iss.	1	Date	20.01 2005	Modification		Ckd.		Appd.	
Iss.		Date		Modification		Ckd.		Appd.	

BEKA associates
Hitchin
England
company confidential, copyright reserved.

THIRD ANGLE PROJECTION DIMENSIONS IN mm DO NOT SCALE



BEKA IP66 PANEL MOUNTING ENCLOSURE WITH INTERGRAL KEYPADS.

When mounting the unit to maintain the IP66 front panel rating:

- Four panel mounting clips should be used
- Minimum panel thickness should be
 - 2mm (0.08inches) Steel
 - 3mm (0.12inches) Aluminium
- Outside panel finish should be smooth, free from particle inclusions, runs or build-up around cut-out.
- Panel cut-out should be
 - 66.2 x 136.0mm -0.0 +0.5
 - (2.60 x 5.35 inches -0.00 +0.02)
- Edges of panel cut-out should be deburred and clean
- Each panel mounting clip should be tightened to between:
 - 20 and 22cNm (1.77 to 1.95 inLb)
- Enclosure provides IP66 protection to front of panel only.
- Operating Temperature -20 TO +60°C
- This enclosure is used to house a variety of BEKA Products including:
 - BA369C IS Clock
 - BA458C IS Flow Batch Controller,
 - BA488C IS Serial Text Display,
 - BA488CF IS Fieldbus Display,
 - BA658C Flow batch controller,
 - BA688C Serial Text Display,
 - BA688CF Fieldbus Display.

Title		Drawn	Checked	Scale
ENCLOSURE DRAWING for IP66 PANEL MOUNTING PRODUCTS WITH INTERGRAL KEYPADS		RC	<i>[Signature]</i>	1:2
		Drawing No. Sheet 1 of 1 C1100-03		