

# (1) EC-TYPE-EXAMINATION CERTIFICATE

- (2) Equipment and Protective Systems intended for use in Potentially Explosive Atmosphere - **Directive 94/9/EC**
- (3) EC-Type-Examination Certificate Number



## TÜV 12 ATEX 7189 X

- (4) Equipment: Flameproof and Increased Safety Control Box EC2C-59-\* and EC2C-54-\* and EC2C-52-\*
- (5) Manufacturer: IDEC CORPORATION
- (6) Address: 1-7-31 Nishimiyahara, Yodogawa-ku, Osaka 532-8550 Japan
- (7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- (8) The TÜV Rheinland Notified Body for ex-protected products of TÜV Rheinland Industrie Service GmbH, Notified Body No. 0035 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmosphere, given in Annex II to the Directive. The examination and test results are recorded in the confidential report 557/Ex189.00/12
- (9) Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to:

**EN 60079-0: 2009**

**EN 60079-7: 2007**

**EN 60079-31: 2009**

**EN 60079-1: 2007**

- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.
- (11) This EC-Type-Examination Certificate relates only to the design and specification for construction of the equipment or protective system. It does not cover the process for actual manufacture or supply of the equipment or protective system, for which further requirements of the directive are applicable.
- (12) The marking of the equipment shall include the following:



**II 2 G**

**Ex d e IIC T6 Gb**



**II 2 D**

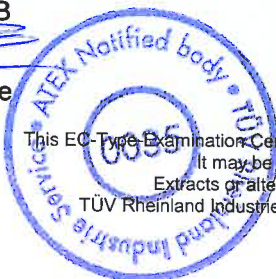
**Ex tb IIIC T80 °C Db**

**IP 65**

TÜV Rheinland ExNB

Cologne, 28<sup>th</sup> November 2012

  
Dipl.-Ing. Heinz Farke



(Translation)

This EC-Type-Examination Certificate without signature and stamp shall not be valid.

It may be circulated only without alteration.

Extracts or alterations are subject to approval by the:

TÜV Rheinland Industrie Service GmbH, Am Grauen Stein, 51105 Köln  
Tel. +49 (0) 221 806-0

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**TÜVRheinland®**  
Precisely Right.



(13) Annex

(14) **EC - Type Examination Certificate**  
**TÜV 12 ATEX 7189 X**

(15) Description of equipment:

15.1 Equipment and type:

Flameproof and Increased Safety Control Box  
Types: EC2C-59-\* and EC2C-54-\* and EC2C-52-\*

15.2 Description:

The Flameproof and Increased Safety Control Box can be manufactured in three types. The Type EC2C-59 contains four rows with up to 60 certified terminals (in total up to 240 terminals in the enclosure) and up to 60 pieces of certified control components (Switches, pilot lights and meters), for wires of 1.25 mm<sup>2</sup> to 2.5 mm<sup>2</sup>. The Type EC2C-54 contains two rows with up to 60 certified terminals (in total up to 120 terminals in the enclosure) and up to 30 pieces of certified control components (Switches, pilot lights and meters) for wires of 1.25 mm<sup>2</sup> to 2.5 mm<sup>2</sup>. The Type EC2C-52 contains one row with up to 60 certified terminals (in total up to 60 terminals in the enclosure) and up to 18 pieces of certified control components (Switches, pilot lights and meters) for wires of 1.25 mm<sup>2</sup> to 2.5 mm<sup>2</sup>.

Further technical data can be seen and taken from the tables below.

15.3 Technical Data

<b>Product Specification</b>	
Degree of Protection	IP65
Box material	Stainless Steel 316 L
Related Insulation Voltage	600 V (depends on the installed devices) (Pilot light: 500 V) (Terminal block WDU 2.5: 550 V) (AC Am meter: 300 V) (DC Am meter or voltmeter: 150 V)
Operating temperature	-20 °C to +50 °C

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Operating Humidity	45 to 85 % RH (no condensation)
Altitude	2000 m

<b>Contact ratings (EU2B-YB, EU2B-YS etc),</b>						
Related Insulation Voltage	600 V					
Thermal current	10 A for two contact blocks, 9 A for three contact blocks.					
Rated operating voltage			24 V	120 V	240 V	500 V
Rated operating current	AC 50/60 Hz	Resistive load (AC 12)	10 A for two contact blocks, 9 A for three contact blocks.	10 A for two contact blocks, 9 A for three	6 A	2.8 A
		Inductive load (AC 15)	10 A for two contact blocks, 9 A for three contact blocks	6 A	3 A	1,4 A
	DC	Resistive load (AC 12)	8 A	2.2 A for two contact blocks, 9 A for three	1.1 A	-
		Inductive load (AC 13)	4 A	1.1 A	0.55 A	-

<b>Pilot light (EU2B-YL)</b>	
Rated Insulation Voltage	500V
Rated Operating Voltage	6, 12, 24, AC/ DC (Full voltage type) 100/110, 115, 200/220, 230, 240, 380, 400/440, 480 V AC (Transformer type)
Frequency	50/60 Hz
Related power consumption (approx.)	0.3 W (Full voltage type), 1.5 VA (Transformer type)

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Meter (EU2B-YM)		
AC meter	Rated insulation voltage	300 V
	Power consumption	1 VA
	Input current	1 A, 5 A
AC meter	Rated insulation voltage	150 V
	Power consumption	0.01 VA (DC Am Meter)
	Input voltage	0 to 10 V DC, 4 to 20 m A etc
	Input current	1 A, 5 A
	Consumption current	1 mA (DC Voltmeter)

The maximum number of certified control and terminal components have to be calculated according to the annex of the following internal document:  
"Idea of b) 1)total calorific value(450[A<sup>2</sup>\*wires]) About EC2C control box 12-339-031"  
and drawing number A49454.

(16) Test Report No. 557/Ex 189.00/12

(17) Special Conditions for safe use

The manufacturer has to make sure that the purchased components and equipment that has been previously ATEX certified are always representing state of the art. Therefore the manufacturers of these parts have to provide the EC Declaration of Conformity that relates to the current editions of the applied standards, which are listed in the Official Journal of the European Community.

Only the ATEX-certified components and equipment, which are listed in the internal ExTR shall be used in combination with the equipment.

Thermal considerations and calculations have to be done for each condition of use. The information given in the instruction shall be used as reference.

The resistivity against heat for the used cable materials have to be higher than +70 °C. The relevant data can be found in the technical specifications.

The information given in the instructions shall be used as reference.

The requirements for clearances and creepage distances according to EN 60079-7 have to be fulfilled.

The maximum number of terminals that are allowed is defined in the specifications. The maximum number is that number that is used for the specific application. Terminals that are not being used need to be dismantled.

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(18) Basic Safety and Health Requirements

Fulfilled.

TÜV Rheinland ExNB

Cologne, 28<sup>th</sup> November 2012

  
Dipl.-Ing. Heinz Farke



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