



(1) **EC-TYPE EXAMINATION CERTIFICATE**

(2) Equipment or protective system intended for use in potentially explosive atmospheres Directive 94/9/EC

(3) EC-Type Examination Certificate number: **LOM 03ATEX2034**

(4) Equipment or Protection System    Switchgear stations  
Type EFS...

(5) Applicant:                                    Cooper, Crouse-Hinds Division, CEAG  
CEAG Nortem, S.A.

(6) Address:                                      Avda. Santa Eulalia, 290  
08223 TARRASA (BARCELONA)  
SPAIN

(7) This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.


(8) Laboratorio Oficial J.M. Madariaga (LOM), notified body number 0163 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament of 23 March 1994, certifies that this equipment or protective system 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 atmospheres, given in Annex II to the Directive.  
The examination and test results are recorded in confidential report nr. **LOM 02.002 AP**

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:  
- Standards                    **EN 50014:1997 + A1:1999 + A2:1999**  
   **EN 50018:2000 + A1:2002**

(10) If the sign X is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in this certificate schedule.

(11) This EC-Type Examination Certificate relates only to the design and construction of this specified equipment or protective system in accordance with the Directive 94/9/EC. Further requirements of the Directive applies to the manufacture and supply of this equipment or protective system. These are not covered by this certificate.

(12) The marking of the equipment or protective system shall include the following:

 II 2G            EEx d IIC T6            Ta: -20 °C / +55 °C

Madrid, 12 May 2003



Carlos Fernández Ramón  
DIRECTOR OF THE LABORATORY



Angel Vega Remesal  
Head of ATEX area

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# LABORATORIO OFICIAL J. M. MADARIAGA

(A1) **SCHEDULE**

(A2) EC-Type Examination Certificate: **LOM 03ATEX2034**

(A3) Description of equipment or protective system

Cylindrical shape flameproof enclosures made in aluminium to use as electrical switchgear and indicators.

Characteristics and utilization

Type (*)	Utilization, contents	Enclosure diameter (mm)	Characteristics
EFS-(1)	One push button or signal lamp	98	$U_e \leq 660 \text{ V}$ $I_{th2} \leq 40 \text{ A}$
EFS-(1)/(2)	Two push button or signal lamp		
EFS-(1)/(2)/(3)	Three push button or signal lamp		
EFS-(1)/(2)	Rotating button for MCB's	140	Poles: 1, 2, 3 or 4 $U_{eMAX} = 415 \text{ V}$ $I_{eMAX} = 60 \text{ A}$
EFS-(1)/(2)	Motor protection		$U_e = 690 \text{ V}$ $I_{eMAX} = 25 \text{ A}$
EFS-72/(1)	Glass window enclosure for measurement devices and electronic devices		$U_{eMAX} = 690 \text{ V}$ $I_{eMAX} = 5 \text{ A}$ $P_{MAX} = 25 \text{ W}$

(\*): (1), (2), (3) = codes according to device type

(A4) Test report: n° LOM 02.002 AP

(A5) Individual test

This enclosures do not need to submit to individual tests because type tests were carried out at four times the reference pressure.

(A6) Essential Health and Safety Requirements

Explosion safe requirements are covered by application of the standards indicated in page 1/3 of this certificate.



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# LABORATORIO OFICIAL J. M. MADARIAGA

(A1) **SCHEDULE**

(A2) EC-Type Examination Certificate: **LOM 03ATEX2034**

(A7) Descriptive documents:

		<u>Rev.</u>	<u>Date</u>
- Description nr.	EFS.doc	0	2001-12-13
- Drawings nr.:	N411112A0001	A	2001-11-05
	N411112A0002	A	2001-11-05
	N411112A0003	A	2001-11-05
	N411112A0005	A	2001-11-05
	N411112A0006	A	2001-11-05
	N411112A0007	A	2001-11-05
	N411113A0003	A	2001-11-05
	N411113A0004	A	2001-11-05
	N411113A0005	A	2001-11-05
	N411113A0006	A	2001-11-05
	N411113A0007	A	2001-11-05
	N411113A0009	A	2001-11-05
	N411113A0012	A	2001-11-05

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(1) **EC-TYPE EXAMINATION CERTIFICATE SUPPLEMENT**

(2) Equipment or protective system intended for use in potentially explosive atmospheres.  
Directive 94/9/EC

(3) Supplement nr. 1 of EC-Type Examination Certificate: **LOM 03ATEX2034**

(4) Equipment or protective system: Switchgear stations  
Type EFS...

(5) Applicant: Cooper Crouse-Hinds, S.A.

(6) Address: Avda. Santa Eulalia, 290  
08223 TARRASA (BARCELONA)  
SPAIN

(7) Test report: **LOM 04.658 EP**

(8) Variations included in this certificate

To include a variant to permit the junction up to four interconnected enclosures by means of threaded pieces without sealing, and with free pass of cables. This combination of EFS enclosures can be combined together electrical switchgear boxes type C3., certificate LOM 02ATEX2037 X

(9) Marking changes

None

(10) Change in individual tests

Each manufactured combination having more than one enclosure must be submitted to overpressure test at 1.9 MPa according paragraph 15.1.3 of EN 50018:2000.

(11) Descriptive documents

	<u>Rev.</u>	<u>Date</u>
- Description nr. Estaciones de Maniobra EFS.doc	-	2005-04-11
- Drawing nr. PRELATON	-	2005-04-11

Madrid, 23th June 2005

OFICIAL

LABORATORIO OFICIAL J.M. MADARIAGA




Carlos Fernández Ramón  
DIRECTOR OF THE LABORATORY



Angel Vega Remesal  
Head of ATEX area

This supplement must be an inseparable part together with the base certificate **LOM 03ATEX2034**  
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(1) **EC-TYPE EXAMINATION CERTIFICATE SUPPLEMENT**

(2) Equipment or protective system intended for use in potentially explosive atmospheres.  
Directive 94/9/EC

(3) Supplement nr. **2** of EC-Type Examination Certificate: **LOM 03ATEX2034**

(4) Equipment or protective system  
Switchgear stations  
Type EFS...

(5) Manufacturer  
COOPER Crouse-Hinds

(6) Address  
Avda. Santa Eulalia, 290  
08223-TERRASSA (BARCELONA)  
ESPAÑA

(7) Test report nr: **LOM 08.227 LP**

(8) Variations included in this certificate

- Update manufacture's name
- Update the assessment base on standards EN 60079-0:2009, EN 60079-1:2007 and EN 60079-31:2009
- To complete the included elements according characteristics and configuration

Tipo (*)	Configuration, contents	Enclosure diameter (mm)	Characteristics
EFS- (1)	One push button or signal lamp	98	Ue ≤ 690V Ith2 ≤ 25A
EFS- (1)(2)	Two push button or signal lamp		
EFS-(1)	One push button or signal lamp		
EFS- (1)(2)(3)	Three push button or signal lamp		
EFS-(1)(2)	One switch	140	Ue ≤ 690V Ith2 ≤ 63A Polos: 1,2,3 ó 4 Ue ≤ 415V Ie ≤ 60A
EFS-(1)(2)	Rotating button for MCB's		
EFS-(1)(2)	Motor protection		
EFS-72(1)	Glass window enclosure for measurement devices and electronic devices		
			Ue ≤ 690V Ie ≤ 5 A P ≤ 25W

(\*): (1), (2), (3) = codes according to device type

(9) Changes in the special conditions for a safe use

- None



This supplement must be an inseparable part together with the base certificate **LOM 03ATEX2034**

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# LABORATORIO OFICIAL J. M. MADARIAGA

(3) Supplement nr. 2 of EC-Type Examination Certificate: **LOM 03ATEX2034**

(10) Changes in individual tests

None

It must be taken in account the test pressure indicated in supplement 1.

(11) Changes in marking



II 2 GD


Ex d IIC T6 Gb  
Ex t IIIC T85 °C Db  
-20 °C ≤ Ta ≤ +55 °C

(12) Descriptive documents

	Rev.	Date
- Description nr.: EFS _ Extensión nr.2	1	2010-07-29
- Drawings nr.: CCH-0805011	1	2010-07-29

  
LABORATORIO OFICIAL J.M. MADARIAGA  
  
Carlos Fernández Ramón  
DIRECTOR OF THE LABORATORY

Getafe, 2011-10-03

  
Angel Vega Remesal  
Head of ATEX area