

Type Approval Certificate Extension

This is to certify that Certificate No. 05/00013(E1) for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER	ABB Sace S.p.A
PLACE OF PRODUCTION	Via Enrico Fermi 14 Frosinone 03100 Italy
DESCRIPTION	Low Voltage Moulded-Case Circuit Breakers.
TYPE	Tmax T4 and T5 with microprocessor based over current releases types PR221DS, PR222DS/PD, PR222MP, PR223 EF/DS and type PR020/K signalling unit.
APPLICATION	Marine, offshore and industrial applications for use in environmental categories ENV1, ENV2 and ENV3 as defined in LR Test Specification No. 1: 2002.
SPECIFIED STANDARD	IEC 60947-1:2004 and IEC 60947-2:2003
ADDITIONAL TESTS	Low Temperature, -25°C ±2°C for 16 hours.

RATINGS

Tmax Type	Rated Current In (A)	Voltage 50/60Hz (V)	Power Factor	Peak Making Icm (kA)	Short Circuit	
					Ultimate S/C Breaking Capacity Icu (kA)	Service S/C Breaking Capacity Ics (kA)
T4 S	250/320	440	.25	84	40	40
		690	.25	52.5	25	25

Certificate No.	05/00013(E2)
Issue Date	11 January 2011
Expiry Date	3 February 2015
Sheet	1 of 2



A.M. Anderson
London Design Support Office
Lloyd's Register EMEA

Lloyd's Register EMEA
71 Fenchurch Street, London EC3M 4BS

RATINGS (cont.)

Tmax Type	Rated Current In (A)	Voltage 50/60Hz (V)	Power Factor	Peak Making Icm (kA)	Short Circuit	
					Ultimate S/C Breaking Capacity Icu (kA)	Service S/C Breaking Capacity Ics (kA)
T4 H	250/320	440	.2	143	65	65
		690	.25	84	40	40
T4 L	250/320	440	.2	220	100	100
		690	.2	154	70	70
T4 V	250/320	440	.2	396	180	180
		690	.2	176	80	80
T5 S	400/630	440	.25	84	40	40
		690	.25	52	25	25
T5 H	400	440	.2	143	65	65
		690	.25	84	40	40
T5H	630	440	.2	143	65	65
		690	.25	84	40	30
T5 L	400	440	.2	220	100	100
		690	.2	154	70	70
T5 L	630	440	.2	220	100	100
		690	.2	154	70	35
T5 V	400	440	.2	396	180	180
		690	.2	176	80	80
T5 V	630	440	.2	396	180	180
		690	.2	176	80	40

"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid certificate."

The attached Design Appraisal Document No. 05/00013(E2 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

All other details remain as the previous Certificate No. 05/00013(E1) which this extension should be attached.

Certificate No. 05/00013(E2)
 Issue Date 11 January 2011
 Expiry Date 3 February 2015
 Sheet 2 of 2



A.M. Anderson
 London Design Support Office
 Lloyd's Register EMEA

Lloyd's Register EMEA
 71 Fenchurch Street, London EC3M 4BS

Lloyd's Register, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register Group'. The Lloyd's Register Group assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register Group entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

Page 1 of 1
Document number 05/00013(E2)
Issue number 1

DESIGN APPRAISAL DOCUMENT

Date 11 January 2011	Quote this reference on all future communications LDSO/ETS/SDC/AMA/WP2568921
-------------------------	---

LLOYD'S REGISTER TYPE APPROVAL SYSTEM, 2002.

Issued to: ABB SACE S.P.A

for: TMAX T4 and T5 SERIES OF

LOW VOLTAGE MOULDED-CASE CIRCUIT BREAKERS

TYPE APPROVAL CERTIFICATE No. 05/00013(E2)

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register Type Approval System, 2002 and this Design Appraisal Document forms part of the Certificate.

ADDITIONAL APPROVAL DOCUMENTATION

Request form

LR Naples Visit Report (NAP 1090002/2527947)

LR Naples Inspection and Surveillance of Production Facilities Report (NAP 1090002)

RINA ISO Certificate No. 8402/03/S

ABB Tmax Technical Catalogue (1SDC210015D0202)

8 April 2010

21 December 2010

21 December 2010

21 July 2008

March 2007

Also all the documentation listed on Design Appraisal Document associated with Type Approval Certificate No. 05/00013(E1)

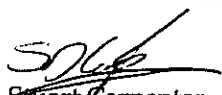
Supplementary Type Approval Terms and Conditions

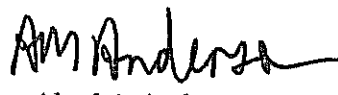
Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.

Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the Lloyd's Register Type Approval System Procedure.


Stuart Carpenter
Electrotechnical Systems
London Design Support Office
Lloyd's Register EMEA
Email: electrotechnical@lr.org


Alasdair Anderson
Electrotechnical Systems
London Design Support Office
Lloyd's Register EMEA
Email: electrotechnical@lr.org

Part 2
Circuit Breakers (ENV Tested) (Part 2)

Producer/ Licence No.	Type	Standard	Normal Current Amperes	Rating			D.C.		Short Circuit	Category/ Additional Tests	Remarks	Cert. No.
				A.C. 50/60/400Hz	Power Factor	Voltage	Voltage	Time Constant Seconds				
				Voltage								
ABB Sace S.p.A, Via Enrico Fermi 14, Frosinone 03100, Italy.	Tmax types T4 and T5 3 pole moulded case circuit breakers	IEC 60947-2:2003 Category A						(A) peak making (kA) Icm	ENV1 ENV2 ENV3 (2002)	Expires: 3 February 2015	05/00013(E2)	
	T4S	"	250/320	440 690	0.25 0.25			(B) rms breaking (kA) Icu/Ics	Low temperature test (-25°C)	Units fitted with microprocessor based over current releases types PR 221DS, PR222DS/PD, PR222MP or PR223EF/DS and type PR020/K signalling unit.		
	T4H	"	250/320	440 690	0.2 0.25			(A) (B)	"			
	T4L	"	250/320	440 690	0.2 0.2			84 40/40 52.5 25/25	"			
	T4V	"	250/320	440 690	0.2 0.2			143 84 220 100/100 154 70/70	"			
	T5S	"	400/630	440 690	0.25 0.25			396 180/180 176 80/80	"			
	T5H	"	400	440 690	0.2 0.25			84 40/40 52 25/25	"			
	T5H	"	630	440 690	0.2 0.25			143 84 143 65/65 84 40/30	"			
	T5L	"	400	440 690	0.2 0.2			220 100/100 154 70/70	"			
	T5L	"	630	440 690	0.2 0.2			220 100/100 154 70/35	"			
	T5V	"	400	440 690	0.2 0.2			396 180/180 176 80/80	"			
	T5V	"	630	440 690	0.2 0.2			396 180/180 176 80/40	"			

AMA
11/1/11