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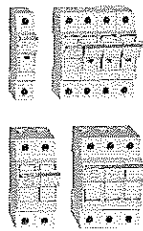
*1.*

# Modulostar® CMS10

Modular fuse-holders

FUSE HOLDERS, FUSE BASES AND SUPPORTS

IEC CYLINDRICAL FUSE HOLDERS



## FEATURES & BENEFITS

- Finger safe
- Degree of protection: IP20
- Optional visual blown fuse indicator
- DIN rail mounting
- Modular design
- Lockable
- Multi-pole assembly kit available
- Sealable in closed and open position
- Plastic material UL94V2 mini
- Flame retardant materials with glow wire flammability index to 960°C
- Shock and vibration tested for marine and railway applications

*B*

The innovative and comprehensive Modulostar® range of Mersen fuse-holders. Modular fuse-holders are finger-safe under IEC standards to an IP20 grade of protection, including fuse changing (with the flick of a finger). Modular fuse-holders are available in 1, 2, 3 or 4 poles, with or without visual blown fuse indicator, in IEC version or IEC + UL version. Multi-pole units can also be field assembled by ordering pin-ties assembly kit. Modulostar® range is made of tough and durable thermoplastic or thermoset material.

## APPLICATIONS

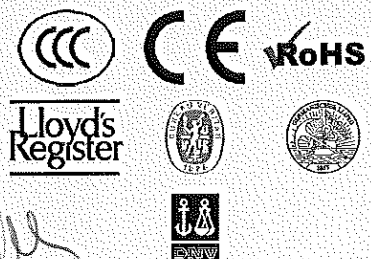
- All circuits up to 690V for protection of motors, transformers, low voltage distribution, control circuits, drive protection
- Non-load operation

## STANDARDS

- IEC 60269-2 and IEC 60947-3 Compliance
- RoHS Compliant
- Plastic material: NF 16101 & 16102 Requirement 2 Compliant

## TECHNICAL DATA OVERVIEW

Voltage AC	690 VAC
Voltage DC	690 VDC
Amper (A)	32 A
SCCR	200kA
Mounting	Installation on to DIN rails to EN 60715
Product Size	For cylindrical fuse links 10.3x38.1 aM, gG and 10.3x38 Mersen Protistor® and HP6M fuse-links
Number of Poles	1 to 4 poles



**ВЯРНО С  
ОРИГИНАЛА**

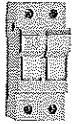


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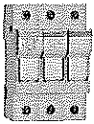
PRODUCT RANGE



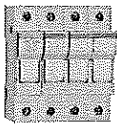
CMS101



CMS102



CMS103



CMS103N



CMS101I

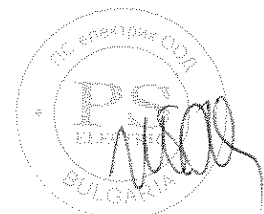
Modulostar® fuse-holders for 10,3x38,1 fuse-links, without indicator

Catalog number	Reference number	Number of poles/ phases	Design	Weight	Package
CMS810N	D305006	N	CMS10 neutral conductor	65.8 g	12
CMS101	T305020	1	CMS10 single pole	61.3 g	12
CMS101N	V305021	1 + N	CMS10 single pole + neutral conductor	0.1316 kg	6
CMS102	W305022	2	CMS10 double pole	0.1216 kg	6
CMS103	X305023	3	CMS10 triple pole	0.1975 kg	4
CMS103N	Y305024	3 + N	CMS10 triple pole + neutral conductor	0.2633 kg	3
CMS104	Z305025	4	CMS10 quadruple pole	0.2433 kg	3

Modulostar® fuse-holders for 10,3x38,1 fuse-links, with indicator

Catalog number	Reference number	Number of poles/ phases	Design	Weight	Package
CMS101I	A305026	1	CMS10 single pole	60.8 g	12
CMS101NI	B305027	1 + N	CMS10 single pole + neutral conductor	0.1316 kg	6
CMS102I	C305028	2	CMS10 double pole	0.1216 kg	6
CMS103I	D305029	3	CMS10 triple pole	0.1825 kg	4
CMS103NI	E305030	3 + N	CMS10 triple pole + neutral conductor	0.2633 kg	3
CMS104I	F305031	4	CMS10 quadruple pole	0.2433 kg	3

ВЯРНО С  
ОРИГИНАЛА



MERSEN reserves the right to change, update or correct, without notice, any information contained in this datasheet.

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## TECHNICAL DATA

	CMS10	CMS10I
Size	10x38	10x38
Number of poles/phases	1, 1+N, 2, 3, 3+N, 4	1, 1+N, 2, 3, 3+N, 4
Conventional free air thermal current with fuse links $I_{th}$	32 A	32 A
Power dissipation at $I_{th}$	3 W	3 W
Utilisation category	AC20B/DC20B	AC20B/DC20B
Rated insulation voltage $U_i$	690 V	690 V
SCCR	200 kA	200 kA
Rated impulse withstand voltage $U_{imp}$	6 kV	6 kV
Degree of protection	IP 20	IP 20
Voltage limit for blown fuse indicator	-	230 to 690V AC/DC
Indication System	-	with indicator
Connection	Max. tightening torque: 2.2Nm (19lbs.-in) Rigid wire = 1-16mm <sup>2</sup> (16-6AWG) Multistrand wire = 0.75-10mm <sup>2</sup> (18-8AWG) PZ2 or flat 5.5x1mm screw drivers recommended (max. diameter 6mm)	Max. tightening torque: 2.2Nm (19lbs.-in) Rigid wire = 1-16mm <sup>2</sup> (16-6AWG) Multistrand wire = 0.75-10mm <sup>2</sup> (18-8AWG) PZ2 or flat 5.5x1mm screw drivers recommended (max. diameter 6mm)
Operating temperature	-25°C to 60°C	-25°C to 60°C
Storage temperature	-25°C to 80°C	-25°C to 80°C
Vibration	Withstand on the 3 main axis*: Sinusoidal vibration testing according to IEC 60068-2-6 2 to 13Hz x= 1 mm peak 13 to 100Hz y= 0.7g peak according to french marine application Random vibration testing according to IEC 61373 Category 1 Class B	Withstand on the 3 main axis*: Sinusoidal vibration testing according to IEC 60068-2-6 2 to 13Hz x= 1 mm peak 13 to 100Hz y= 0.7g peak according to french marine application Random vibration testing according to IEC 61373 Category 1 Class B
Shock	Shock testing according to IEC 61373 Category 1 Class B Shock testing according to IEC 60068-2-27 15g/11ms/18 shocks	Shock testing according to IEC 61373 Category 1 Class B Shock testing according to IEC 60068-2-27 15g/11ms/18 shocks
	* for specific usage please contact us	* for specific usage please contact us

## SPECIFIC USAGE CONDITIONS

Ambient temperature	>20°C	30°C	40°C	50°C	60°C
Derating factor ( $I_b$ )	1	0.95	0.9	0.8	0.7

No of poles (side by side)	1 to 3	>= 4
Derating factor of current ( $I_{th}$ )	1	0.9

Nominal current of fuse-link gR	20 A	25 A	30 A	32 A
Max. operational current in fuse-holder	19 A	22 A	25 A	27 A
Cable wire section	2.5 mm <sup>2</sup>	4 mm <sup>2</sup>	6 mm <sup>2</sup>	6 mm <sup>2</sup>

ВЯРНО С  
ОРИГИНАЛА



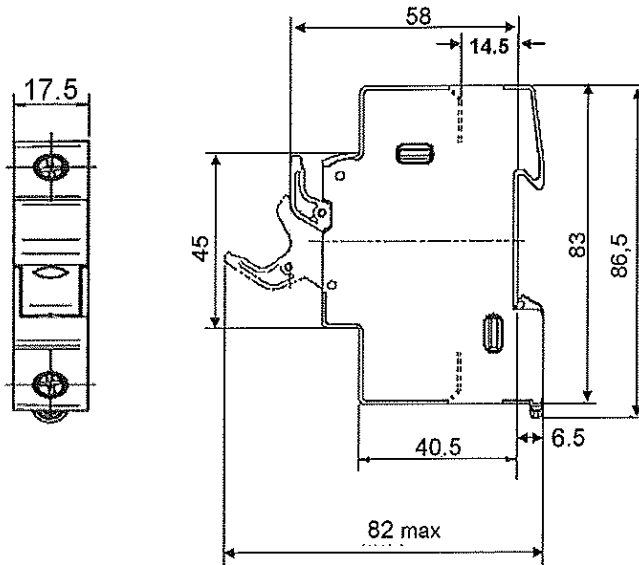
# Modulostar® CMS10

Modular fuse-holders



## DIMENSIONS

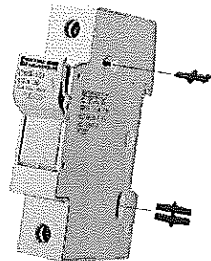
Modulostar® CMS10 fuse-holders for cylindrical fuse-links class 10x38mm



Dimensions in mm



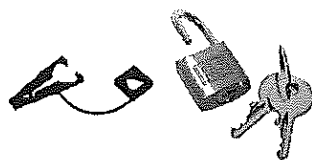
## ACCESSORIES



CMS8010PAK + fuse-holder

### Kit for multi phase connection

Catalog number	Reference number	Description	Weight	Package
CMS810PAK	Z233725	Links for connection of multipole units	0.5 g	12



TAGLOCKCMS810

LOCK

### Locking devices

Catalog number	Reference number	Description	Weight	Package
TAGLOCKCMS810	A235773	Locking kit (Tag and lockout)	9 g	1
LOCK	M223525	Padlock	0,475 kg	1

ВЯРНО С  
ОРИГИНАЛА





ACCESSORIES



TBB1A



TBB1C



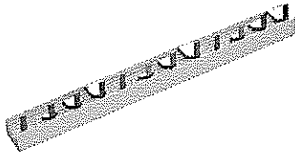
TBB23A



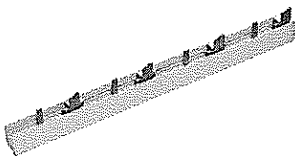
TBB23C

Power supply

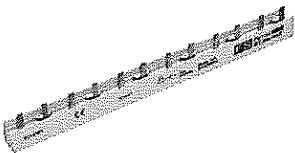
Catalog number	Reference number	Description	Application	Weight	Package
TBB1A	D210315	1 phase axial incoming power supply	Max. rms current 90A	10.1 g	50
TBB1C	E210316	1 phase lateral incoming power supply	Max. rms current 90A	10 g	50
TBB23A	F210317	2 & 3 phases axial incoming power supply	Max. rms current 90A	23.3 g	50
TBB23C	G210318	2 & 3 phases lateral incoming power supply	Max. rms current 90A	23.1 g	50



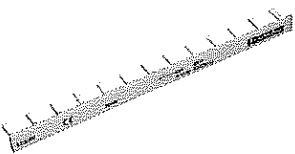
CMS810BB4F3



CMS810BB3F4



CMS810BB2F6



CMS810BB1F13

Wiring bars / Insulated bus bars

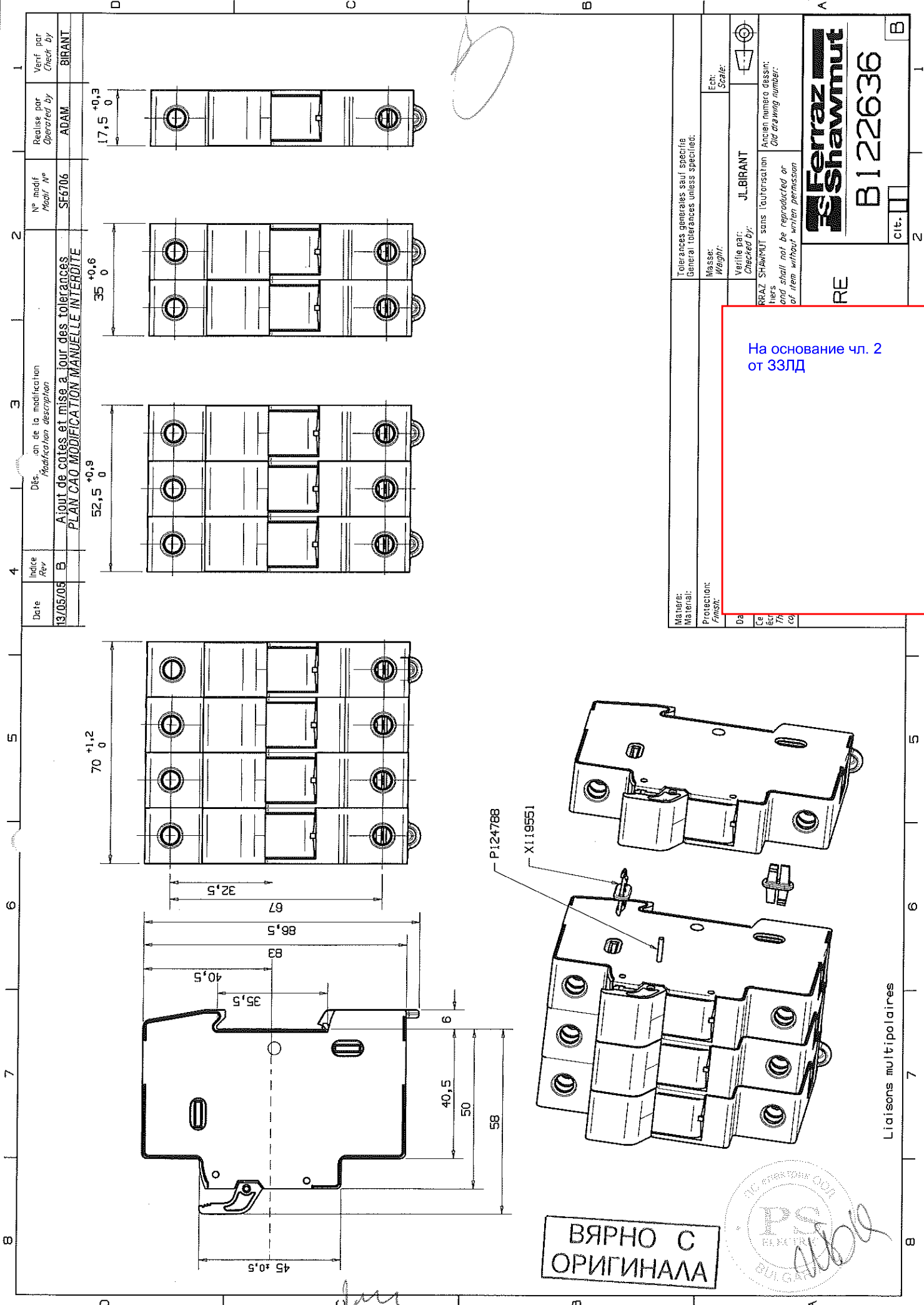
Catalog number	Reference number	Description	Application	Weight	Package
CMS810BB4F3	X210309	quadruple pole, 10 mm <sup>2</sup> , partition 17,5 mm (distance of poles), peg design, L-shaped	Max. rms current 100A, for installation of 3 modules	120 g	10
CMS810BB3F4	W210308	triple pole, 10 mm <sup>2</sup> , partition 17,5 mm (distance of poles), peg design, L-shaped	Max. rms current 100A, for installation of 4 modules	84 g	10
CMS810BB2F6	V210307	double pole, 10 mm <sup>2</sup> , partition 17,5 mm (distance of poles), peg design, L-shaped	Max. rms current 63A, for installation of 6 modules	80 g	10
CMS810BB1F13	T210306	single pole, 10 mm <sup>2</sup> , partition 17,5 mm (distance of poles), peg design, L-shaped	Max. rms current 63A, for installation of 13 modules	33.5 g	10

ВЯРНО С  
ОРИГИНАЛА



MERSEN reserves the right to change, update or correct, without notice, any information contained in this datasheet.

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Date	Indice Rev	Dés. Modification description	N° modif. Modif. N°	Realise par Operated by	Verif par Check by
13/05/03	B	Ajout de cotes et mise a jour des tolerances PLAN CAO MODIFICATION MANUELLE INTERDITE	SE6706	ADAM	BIRANT

Tolerances generales sauf specifié General tolerances unless specified.		Ech. Scale:	
Masse: Weight:		Verifie par: Checked by:	
Protection: Finisht:		Ancien numero dessin: Old drawing number:	
Dés. Description:		Ancien numero dessin: Old drawing number:	
RE		Ancien numero dessin: Old drawing number:	
B122636		B122636	
cit. 1		cit. 2	

На основание чл. 2 от ЗЗЛД

ВЯРНО С  
ОРИГИНАЛА



Liaisons multipolaires



10.7.3

**EU DECLARATION OF CONFORMITY / DECLARATION DE CONFORMITE UE**

We / Nous **Mersen France SB** sas 15, Rue Jacques Vaucanson 69720 Saint Bonnet de Mure France

Website / Site web **ep-fr.mersen.com** (this declaration is downloadable / cette déclaration est téléchargeable)

Certify that products with the registered trade mark / Certifions que les produits de la marque Mersen ® or / ou FERRAZ SHAWMUT ® ,

**Ferrule fuse modular fuseholders / Porte fusibles modulaires pour fusibles à capsules**

<b>CMS8</b>	<b>CMS10 US10</b>	<b>CMS14 US14</b>	<b>CMS22 US22</b>	<b>CMS27 US27</b>		<b>+ Suffixes for pole qty and accessories</b>
-------------	-----------------------	-----------------------	-----------------------	-----------------------	--	--

**Catalog number prefix designation for accessories / Préfixes des catalog numbers des accessoires**

Wiring bars CMS810BB - CMS14BB - CMS22BB  
 Incoming power supply TBB  
 Tag and lockout TAGLOCK ...  
 Auxilliary contact kit USM ...  
 Other diverse accessories CMS810, US810, CMS14, US14, US1422, CMS22

Provided that they are installed, maintained and used as intended and in accordance with the current installation standards according to manufacturer's recommendations, comply with the following Directives

Sous réserve d'installations, d'entretien et d'utilisation conformes à leur destination, aux normes d'installations applicables et aux instructions du constructeur, satisfont aux exigences des Directives suivantes:

Low Voltage 2014/35/EU  
Rohs 2011/65/EU

Basse Tension 2014/35/UE  
Rohs 2011/65/UE

And are in compliance with the following standards / et sont conformes aux normes suivantes:

- IEC 60269-1 Ed.4.2 : 2014
- IEC 60269-2 Ed.5.0 : 2013
- IEC 60947-1 Ed.5.2 : 2014
- IEC 60947-3 Ed.2008 / A1:2012 / A2:2015

**ВЕРНО С  
ОРИГИНАЛА**

Saint Bonnet de Mure le 04 Juillet 2017

Name / Nom :

На основание чл. 2  
от ЗЗЛД

Position / Fonction :

Signature / Signature :

DECLARATION CE N° 0 0 6 5 S



**PS**ELECTRIC®

MERSEN

Декларация по REACH конвенцията.

Ние MERSEN FRANSE SB S.A.S 15, Rue de Vaucanson 69720 Saint Bonnet de Mure Cedex Franse

С настоящето декларираме, че продуктите с регистрирана търговска марка FERRAZ CSHAWMUT, или Mersen

Цилиндрични предпазители променлив ток

am/gG размер 8x31/10x38/14x51/22x58 със или без индикатор или страйкър

CMS8-10-14-22-27 US10-14-22-US101 US15M USBCC USCC US3J US56J

Не съдържат никое от 174 CSVHC веществата в количества по големина от 0,1% от теглото им съгласно валидния в момента списък, нито вещества от Анекс 17, съгласно ECHA от 07. 07. 2017г.

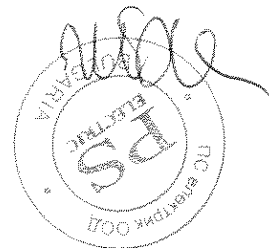
Mersen Franse SB не подлежи на регистрация по процедурите за безопасност(тъй като не е нито про-изводител, нито вносител на такива вещества/препарати).

Ние периодично преглеждаме списъка на ECHA и изискваме от нашите доставчици да доставят изделия, детайли и продукти, в които няма CSVHC вещества в по-голямо количество от 0,1% от теглото им, за всяка поръчка която правим.

Като ползвател по веригата MERSEN ще:

- Продължи да прилага стриктно политиката на безопасност основана на актуалните версии на Информационните листи за безопасност на продуктите;
- Ще следи за използваните продукти и препарати в своите продукти;
- Ще търси възможност за замяна или преформулиране на веществата използвани в продуктите.

На основание чл. 2  
от ЗЗЛД



Централен офис адрес: 9700 Шумен, бул. Мадара 12; тел: +359 54 87 44 99; факс: +359 54 87 45 00  
Офис София адрес: 1000 София, бул. Витоша 129; тел: +359 2 952 24 05; факс: +359 2 952 67 20  
e-mail: [office@pselectric.bg](mailto:office@pselectric.bg) web: [www.pselectric.bg](http://www.pselectric.bg)

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Декларация за съответствие

Ние, Мерсен, Франция  
Интернет страница [ep-fr.mersen.com](http://ep-fr.mersen.com)

Декларираме, че продуктите с регистрирана търговска марка  
Mersen или Ferraz Shawmut

Модулни разединители с предпазители  
CMS8, CMS10, CMS14, CMS22, CMS27  
US10, US14, US22, US27,  
+ допълнение за брой полюси и аксесоари

Каталожни номера за аксесоари  
Захранващи шини CMS810BB- CMS14BB- CMS22BB  
Входящи захранвания TBB  
Маркер и заключване TAGLOCK  
Помощни контакти USM  
Други аксесоари CMS810, US810, CMS14, US14, US1422, CMS22

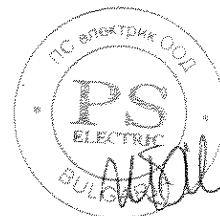
При условие, че са инсталирани, поддържани и използвани по предназначение и в  
съответствие с настоящите стандарти за инсталиране съгласно препоръките на  
производителя, да отговорят на следните директиви:

Low voltage 2014/35/EU  
ROHS 2001/65/EU

И са в съответствие със следните стандарти: IEC 60269-1 Ed. 4.2:2014, IEC 60269-2 Ed.  
5.0:2013, IEC 60947-1 Ed. 5.2:2014, IEC 60947-3 Ed.2008/A1:2012/ A2:2015

Дата:04.07.2017

Подписи, печат



## Reach status DECLARATION

Nous/We **Mersen France SB SAS 15, Rue de Vaucanson 69720 Saint Bonnet de Mure Cedex France**

Hereby declare that products with the registered trade mark FERRAZ SHAWMUT ®, or Mersen Certifions par ce document que les produits de la marque FERRAZ SHAWMUT ®, or Mersen

### Fuse disconnectors

**CMS8-10-14-22-27 , US10-14-22-27 , US101, US15M, USBCC , USCC , US3J , US6J & suffixes & kit micro CMS**

do not contain any of the 174 SVHC substances at a rate of more than 0.1% by weight according to the current valid candidate list nor any substance of Annex 17, according to ECHA since July, 07, 2017.

The present declaration is based on a permanent communication with our suppliers .

In case of any change, we would inform ECHA and our customers according to Reach requests.

Mersen France SB is not concerned by the Reach registration procedure, (being neither a producer nor an importer of substances/preparations).

We periodically review the ECHA candidate list , and we ask our suppliers to commit to deliver pieces , parts and products , free of SVHC substances at a rate of more than 0.1% by weight , for every order .

As an article **Downstream user** in the value chain, Mersen will :

- Continue to drive a strict policy of Occupational Health and Safety based on up to date versions of Safety Data Sheets.
- Monitor by-the-supplier-identified uses of Substances and Preparations contained in our products,
- Seek out possibilities to substitute or reformulate in anticipation of possible disappearances of Substances or products.

Mersen's active communication policy with our suppliers and customers may help avoid any adverse effect of the Reach Regulation on our products, in order to continue ensuring and enhancing the safety of people and property.

**Ne contiennent aucune des 174 substances SVHC à plus de 0,1% en masse de la liste candidate, ni substance de l'Annexe 17 de l' ECHA depuis le 07 juillet 2017.**

La déclaration présente est basée sur une communication permanente avec nos fournisseurs .

**En cas de changement, nous informerions l'ECHA et nos clients** selon les exigences Reach .

Mersen France SB **n'est pas concernée par la procédure d'enregistrement** (ni producteur ni importateur de substance/préparation).

Nous vérifions périodiquement la liste candidate de l'ECHA , **et demandons à nos fournisseurs leur engagement de nous livrer des pièces/produits libres de substance SVHC à plus de 0,1% en masse à chaque commande.**

En tant **qu'utilisateur aval d'articles** dans la chaine d'approvisionnement , Mersen :

- Poursuit avec rigueur une politique de Santé/Sécurité sur la base des versions à jour des Fiches de Données de Sécurité,
- Surveille les usages identifiés par les fournisseurs des Substances et Préparations utilisées dans nos produits,
- S'informe des possibilités de substitution/reformulation pour anticiper d'éventuelles disparitions de Substances/Préparations.

La politique active de communication de Mersen avec ses fournisseurs et clients doit permettre d'éviter tout impact négatif de Reach sur nos produits, afin de continuer à servir la Sécurité des biens et des personnes.

Saint Bonnet de Mure le : 21 juillet 2017

Fonction / Position : Eu

DECLARATION REACH N° 0 0 1

На основание чл. 2  
от ЗЗЛД

ВЯРНО С  
ОРИГИНАЛ

СЕРТИФИКАТ  
ELECTRIC  
BU

## Reach status DECLARATION

Nous/We **Mersen France SB SAS 15, Rue de Vaucanson 69720 Saint Bonnet de Mure Cedex France**

Hereby declare that products with the registered trade mark FERRAZ SHAWMUT ®, or Mersen Certifions par ce document que les produits de la marque FERRAZ SHAWMUT ®, or Mersen

**AC cylindrical fuses aM/gG sizes 8x31/10x38/14x51/22x58 with or without indicator or striker  
FR8AM..-FR8GG..-FR10AM..-FR10GG..-FR14AM..-FR14GG..-FR22AM..-FR22GG..**

**Neutral ferrule type FR / Cartouches neutres cylindriques FR**

do not contain any of the 174 SVHC substances at a rate of more than 0.1% by weight according to the current valid candidate list nor any substance of Annex 17, according to ECHA since July 07, 2017 .

The present declaration is based on a permanent communication with our suppliers .

In case of any change, we would inform ECHA and our customers according to Reach requests.

Mersen France SB is **not concerned by the Reach registration procedure**, (being neither a producer nor an importer of substances/preparations).

We periodically review the ECHA candidate list , and we ask our suppliers to commit to deliver pieces , parts and products , free of SVHC substances at a rate of more than 0.1% by weight , for every order .

As an article **Downstream user** in the value chain, **Mersen** will :

- Continue to drive a strict policy of Occupational Health and Safety based on up to date versions of Safety Data Sheets.
- Monitor by-the-supplier-identified uses of Substances and Preparations contained in our products,
- Seek out possibilities to substitute or reformulate in anticipation of possible disappearances of Substances or products.

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En tant qu'**utilisateur aval d'articles** dans la chaîne d'approvisionnement , **Mersen** :

- Poursuit avec rigueur une politique de Santé/Sécurité sur la base des versions à jour des Fiches de Données de Sécurité,
- Surveille les usages identifiés par les fournisseurs des Substances et Préparations utilisées dans nos produits,
- S'informe des possibilités de substitution/reformulation pour anticiper d'éventuelles disparitions de Substances/Préparations.

La politique active de communication de **Mersen** avec ses fournisseurs et clients doit permettre d'éviter tout impact négatif de Reach sur nos produits, afin de continuer à servir la Sécurité des biens et des personnes.

Saint Bonnet de Mure le : 19 juillet 2017 Nom

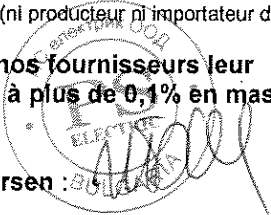
Fonction / Position : Europe Pro

Sign

DÉCLARATION REACH N° 0 0 0 1

На основание чл. 2 от ЗЗЛД

ВЪРНО С  
 ОРИГИНАЛ





**PS**ELECTRIC®

MERSEN

Декларация по REACH конвенцията.

Ние MERSEN FRANSE SB S.A.S 15, Rue de Vaucanson 69720 Saint Bonnet de Mure Cedex Franse

С настоящето декларираме, че продуктите с регистрирана търговска марка FERRAZ CSHAWMUT, или Mersen

Цилиндрични предпазители променлив ток

am/gG размер 8x31/10x38/14x51/22x58 със или без индикатор или страйкър

FR8AR FR8GG FR10AM FR10GG FR14AM FR14GG FR22AM FR22GG

Неутрален железен тип FR

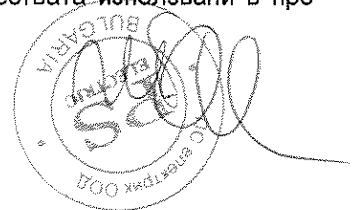
Не съдържат никое от 174 CSVHC веществата в количества по големина от 0,1% от теглото им съгласно валидния в момента списък, нито вещества от Анекс 17, съгласно ECHA от 07. 07. 2017г.

MERSEN FRANSE SB не подлежи на регистрация по процедурите за безопасност(тъй като не е нито производител, нито вносител на такива вещества/препарати).

Ние периодично преглеждаме списъка на ECHA и изискваме от нашите доставчици да доставят изделия, детайли и продукти, в които няма CSVHC вещества в по-голямо количество от 0,1% от теглото им, за всяка поръчка която правим.

Като ползвател по веригата MERSEN ще:

- Продължи да прилага стриктно политиката на безопасност основана на актуалните версии на Информационните листи за безопасност на продуктите;
- Ще следи за използваните продукти и препарати в своите продукти;
- Ще търси възможност за замяна или преформулиране на веществата използвани в продуктите.



Saint Bonnet de Mure: 19. 07. 17г.  
Bruno Thomas

---

Централен офис адрес: 9700 Шумен, бул. Мадара 12; тел: +359 54 87 44 99; факс: +359 54 87 45 00  
Офис София адрес: 1000 София, бул. Витоша 129; тел: +359 2 952 24 05; факс: +359 2 952 67 20  
e-mail: [office@pselectric.bg](mailto:office@pselectric.bg) web: [www.pselectric.bg](http://www.pselectric.bg)



Marine & Offshore  
Division

Certificate number: 16397/C0 BV

File number: ACE 03/07/04

Product code: 2645H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

www.veristar.com

## TYPE APPROVAL CERTIFICATE

This certificate is issued to

**MERSEN FRANCE SB S.A.S**  
SAINT BONNET DE MURE - FRANCE

for the type of product

**FUSES / FUSES COMBINATION UNITS (LOW VOLTAGE)**  
MODULOSTAR CMS Fuse holders.

**Requirements:**

BV Rules for the Classification of Steel Ships.

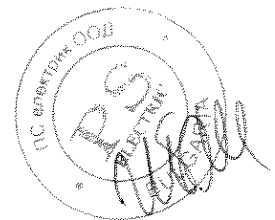
IEC 60269-1 (2014), IEC 60269-2 (2013), IEC 60947-1 (2014), IEC 60947-3 (2008+A1/2012 + A2/2015).

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate is a renewal of certificate N° 16397/B0 BV expiring on 24/06/2016

This certificate will expire on: 24 Jun 2021

На основание чл. 2  
от ЗЗЛД



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine & Offshore Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION :

The **MODULOSTAR CMS series** are Fuse holders for Marine applications.

Type	for Fuse Links	Nominal Voltage	Nominal Current	Voltage Isolation
<b>CMS8</b>	8x31	500V	25A	6 kV
<b>CMS10 US10</b>	10x38	690V	32A	6 kV

- With or without fuse light melting indicator
- Utilization category: AC20B
- Protection index: IP 20

### 2. DOCUMENTS AND DRAWINGS :

Specification ref. DS-LACYCS10-04-2014\_FR, dated 19.Nov.2014.

### 3. TEST REPORTS :

- SMT/AP/033/18043 A/1 for 8 x 31 Fuse Holder issued by LCIE dated 20/06/2005
- SMT/AP/033/18043 B/1 for 10 x 38 Fuse Holder issued by LCIE dated 20/06/2005
- 18982-1 for Damp heat test at Ferraz Shawmut Test Lab dated 02/05/2006
- 18982-2 for Vibration test at Ferraz Shawmut Test Lab dated 02/05/2006

### 4. APPLICATION / LIMITATION :

According to BV Rules for the Classification of Steel Ship.

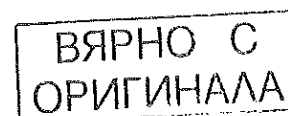
### 5. PRODUCTION SURVEY REQUIREMENTS :

- 5.1 - The **MODULOSTAR CMS series** are to be supplied by **MERSEN FRANCE SB S.A.S** in compliance with the type described in this certificate.
- 5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.
- 5.3 - **MERSEN FRANCE SB S.A.S** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

### 6. MARKING OF PRODUCT :

The items prescribed below shall be marked on a easily visible place of fuse surface in an indelible way.

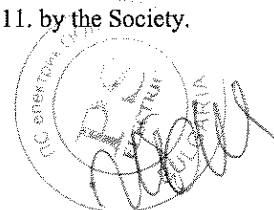
- 6.1 - Rated voltage (V)
- 6.2 - Rated current (A)
- 6.3 - Rated breaking capacity
- 6.4 - Fusing Factor
- 6.5 - Manufacturer's name
- 6.6 - Model N°
- 6.7 - Approved class name.



### 7. OTHERS :

- 7.1 - It is **MERSEN FRANCE SB S.A.S**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.
- 7.2 - This certificate supersedes the Type Approval Certificate No. 16397/B0 BV issued on 24.Jun.2011, by the Society.

\*\*\* END OF CERTIFICATE \*\*\*



**PS** ELECTRIC®

Bureau Veritas

Сертификат за типово одобрение

Този сертификат е издаден на MERSEN FRANCE SB S.A.S

За типа продукти

Предпазители / Комбинирани Предпазители (ниско напрежение)

Mfdulostar CMS гнезда за предпазители

Изисквания:

Правилата на BV за класифициране на кораби от стомана.

IEC 60269-1 (2014), IEC 60269-2 (2013), IEC 60947-1 (2014) и IEC 60947-3 (2008+A1/2012 + A2/2015)

Този сертификат се издава за да потвърди че BV са извършили съответните процедури по одобрениена описаните по-горе изделия и те са отговаряли на изискванията упоменати по-горе.

Този сертификат подновява сертификат № 16397/BO BV изтичащ на 24/06/2016.

Този сертификат ще изтече на: 24.юни 2021



На основание чл. 2  
от ЗЗЛД

## План на изпитанията

### 1. Описание на изделието

Modulostar CMS серията представляват държачи за предпазители за морско приложение.

Тип	за предпазители	Номинално напрежение	Номинален ток	Изоляционно напрежение
CMS8	8 x 31	500V	25A	6 kV
CMS10	10 x 38	690V	32A	6 kV
US10				

Със или без стопяем индикатор

Категория на ползване: AC20B

Степен на защита: IP 20

### 2. Документи и чертежи

Спецификация DS-LACYCS10-04-2014\_FR от 19 ноември 2014

### 3. Тест протоколи

SMT/AP/033/18043 A/1 за 8 x 31 държач за предпазител издаден от LCIE от 20/06/2005

SMT/AP/033/18043 B/1 за 10 x 38 държач за предпазител издаден от LCIE от 20/06/2005

18982-1 за топлинен тест във Ferraz Shawmut лабораторията от 02/05/2006

18982-2 за вибрационен тест във Ferraz Shawmut лабораторията от 02/05/2006

### 4. Приложение/ограничения

Съгласно правилата на BV за кораби от стомана.

### 5. Изисквания за инспектиране на производството

5.1 - Серията Modulostar CMS трябва да се доставя от MERSEN France SB SAS в съответствие с типа описан в този сертификат.

5.2 - Този тип продукт е от категорията HBV на Bureau Veritas правило NR320 и като такъв за него не се изисква издаване на продуктов сертификат на BV.

5.3 MERSEN France SB SAS трябва да направи необходимото за да бъдат производствените му мощности признати от Bureau Veritas в съответствие с изискванията на NR320 продукт.

### 6. Маркиране на продукта

Позициите по-долу ще бъдат маркирани на лесно видимо място на повърхността на предпазителя по неизличим начин.

6.1 - Номинално напрежение (V)

6.2 - Номинално напрежение (A)

6.3 - Номинален капацитет на прекъсване

6.4 - Коефициент на стабилност

6.5 - Име на производителя

6.6 - Модел №

6.7 - Име на одобрен клас

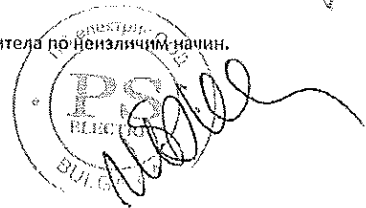
### 7. Други

7.1 MERSEN France SB SAS носи отговорността да информира корабостроителите или техните подизпълнители за правилния начин на монтаж, употреба и експлоатация на одобреното оборудване.

7.2 Този сертификат заменя ня Типовия сертификат № 16397/BO BV издаден на 20 юни 2011.

8.1.2018

А. Аврамов



Handwritten signature at the bottom of the page.





Section Certifications

4

Convention N°1697

## ATTESTATION D'ACCREDITATION

### ACCREDITATION CERTIFICATE

N° 5-0014 rév. 20

Le Comité Français d'Accréditation atteste que :  
*The French Committee for Accreditation certifies that :*

**LCIE**  
**33, avenue du Général Leclerc**  
**92260 FONTENAY-AUX-ROSES**

SIREN : 408363174

satisfait aux exigences de la norme / *fulfils the requirements of the standard*  
**NF EN ISO/CEI 17065:2012**  
et aux règles du Cofrac / *and Cofrac rules*

pour les activités de / *for activities of*

**Certification de produits industriels et autres produits non agricoles et alimentaires / Certification of industrial products and other products than food ones**

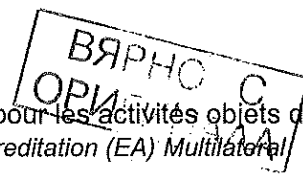
réalisées par l'entité ci-dessus désignée et le(s) site(s) éventuel(s) situés aux adresses ci-dessous /  
*performed by the above mentioned entity and the site(s) at the addresses below :*

/

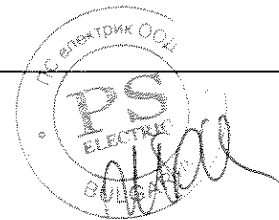
et précisément décrites dans la ou les annexes techniques suivantes / *and precisely described in the following technical appendix :*

**5-0014 rév. 20**

Le Cofrac est signataire de l'accord multilatéral d'EA pour l'accréditation pour les activités objets de la présente attestation / *Cofrac is signatory of the European co-operation for Accreditation (EA) Multilateral Agreement for accreditation for the activities covered by this certificate.*



Date de prise d'effet / *granting date* : **22/12/2017**  
Date de fin de validité / *expiry date* : **31/03/2020**



Pour le Directeur Général et par délégation  
*On behalf of the General Director*

La Directrice de Section,  
*The Section Director,*

На основание чл. 2  
от ЗЗЛД

La présente attestation n'est valide qu'accompagnée de son annexe technique.  
*This certificate is only valid if associated with the technical appendix.*

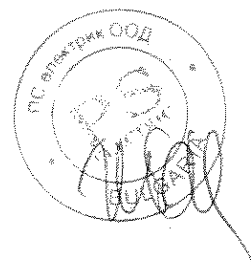
L'accréditation peut être suspendue, modifiée ou retirée à tout moment. Pour une utilisation appropriée, la portée de l'accréditation et sa validité doivent être vérifiées sur le site internet du Cofrac ([www.cofrac.fr](http://www.cofrac.fr)).  
*The accreditation can be suspended, modified or withdrawn at any time. For a proper use, the scope of accreditation and its validity should be checked on the Cofrac website ([www.cofrac.fr](http://www.cofrac.fr)).*

Cette attestation annule et remplace l'attestation N° 5-0014 Rév 19. *This certificate cancels and replaces the certificate N° 5-0014 Rév 19.*  
Seul le texte en français peut engager la responsabilité du Cofrac. *The Cofrac's liability applies only to the French text.*

Comité Français d'Accréditation - 52, rue Jacques Hillairet - 75012 PARIS  
Tél. : 33 (0)1 44 68 82 20 – Fax : 33 (0)1 44 68 82 21 Siret : 397 879 487 00031

[www.cofrac.fr](http://www.cofrac.fr)

ВЯРНО С  
ОРИГИНАЛА



Section Certifications

**ANNEXE TECHNIQUE  
TECHNICAL APPENDIX**
**N° 5-0014 rév. 20**

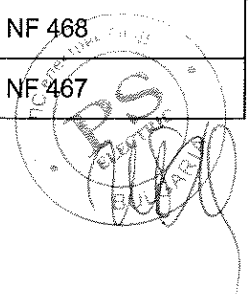
 Organisme accrédité / Entity accredited :  
**LCIE**

Pour : LCIE

Description des activités réalisées par l'organisme / Description of the activities produced by the organization	Certification de Produits Industriels entrant dans le champ d'application des articles L433-3 et suivants, et R433-1 et suivants du Code de la Consommation # / Products certification concerned by French regulations "Code de la Consommation"
--	--

Section Section	Sous-section Subsection	Familles Catégories de produits Product categories	Produits Products	Identification du référentiel Standard identification
D	DL	Equipements électriques et électroniques	Conducteurs et câbles électriques	NF 003
D	DL	Equipements électriques et électroniques	Conduits profilés et matériels analogues pour canalisations électriques	NF 004
D	DL	Equipements électriques et électroniques	Composants électroniques	NF 011
D	DL	Equipements électriques et électroniques	Appareillages électriques domestiques et analogues	NF 012
D	DL	Equipements électriques et électroniques	Appareils électriques autonomes de sécurité	NF 015
D	DL	Equipements électriques et électroniques	Electricité appareils électrodomestiques	NF 089
D	DL	Equipements électriques et électroniques	Luminaires	NF 105
D	DL	Equipements électriques et électroniques	Matériels électriques non couverts par une application particulière	NF 208
D	DL	Equipements électriques et électroniques	Réseau COM - Infrastructures de réseaux de communication	NF 288
D	DL	Equipements électriques et électroniques	Environnement - Blocs d'éclairage de sécurité	NF 413
D	DL	Equipements électriques et électroniques	Blocs Autonomes d'Alarme Sonore (BAAS)	NF 468
D	DL	Equipements électriques et électroniques	Luminaires à source centrale	NF 467

ВЯРНО С  
КОПИРИНАЛА



<b>Description des activités réalisées par l'organisme / Description of the activities produced by the organization</b>	<b>Evaluation de la Conformité CE # / EC conformity assessment</b>
---	--

Section <i>Section</i>	Sous-section <i>Subsection</i>	Familles Catégories de produits <i>Product categories</i>	Produits <i>Products</i>	Identification du référentiel <i>Standard identification</i>	Procédure d'évaluation de la conformité telle que citée dans la directive <i>Conformity assessment procedure</i>
D	DL	Equipements électriques et électroniques	Matériels électroniques et électriques	En application de la directive 2014/30/UE (CEM) Référentiel certification CEM	Examen "CE" /UE de type
D	DL	Equipements électriques et électroniques	Matériels électriques destinés à être utilisés en atmosphères explosibles	En application de la directive 2014/34/UE Référentiel certification ATEX 2014-34-UE	Examen "CE" /UE de type Conformité au type Assurance de la qualité de la production Assurance qualité du produit Vérification du produit Vérification à l'unité
D	DL	Equipements électriques et électroniques	Equipements radioélectriques	Référentiel de certification RED en application de la Directive 2014/53/UE	Examen "CE" /UE de type
D	DL	Equipements électriques et électroniques	Câbles pour applications générales dans les ouvrages de construction soumis aux exigences de réaction au feu	Règles LCIE RPC Câbles et norme EN 50575	système 1 +

Date de prise d'effet / Granting date : 22/12/2017

На основании чл. 2  
от 33ЛД

# Accréditation rendue obligatoire dans le cadre réglementaire français par le  
cofrac CERT CPS INF 02 disponible sur [www.cofrac.fr](http://www.cofrac.fr)

Cette annexe technique annule et remplace l'annexe technique 5-0014 Rév. 19. *This technical appendix cancels and replaces the technical appendix 5-0014 Rév. 19*

Comité Français d'Accréditation - 52, rue Jacques Hillairet - 75012 PARIS  
Tél. : 33 (0)1 44 68 82 20 – Fax : 33 (0)1 44 68 82 21 Siret : 397 879 487 00031 [www.cofrac.fr](http://www.cofrac.fr)

**IEC****IECEE**  
CB  
SCHEME

Ref. Certif. No.

FR 679436

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST  
CERTIFICATES FOR ELECTRICAL EQUIPMENT  
(IECEE) CB SCHEMESYSTEME CEI D'ACCEPTATION MUTUELLE DE  
CERTIFICATS D'ESSAIS DES EQUIPEMENTS  
ELECTRIQUES (IECEE) METHODE OC**CB TEST CERTIFICATE / CERTIFICAT D'ESSAI OC**Product  
Produit

Low-voltage fuse-holder

Name and address of the applicant  
Nom et adresse du demandeur**MERSEN FRANCE SB SAS**  
15 rue Jacques de Vaucanson - 69720 SAINT BONNET DE MURE - FranceName and address of the manufacturer  
Nom et adresse du fabricant**MERSEN FRANCE SB SAS**  
15 rue Jacques de Vaucanson - 69720 SAINT BONNET DE MURE - FranceName and address of the factory  
Nom et adresse de l'usine**MERSEN FRANCE SB SAS**  
15 rue Jacques de Vaucanson - 69720 SAINT BONNET DE MURE - FranceNote : When more than one factory, please report on page 2  
Note : Lorsqu'il y a plus d'une usine, veuillez utiliser la 2ème pageRatings and principal characteristics  
Valeurs nominales et caractéristiques principales

32 A , 690 V~ , 1 to 4P

Trademark (if any)  
Marque de fabrique (si elle existe)

FERRAZ SHAWMUT

Type of Manufacturer's Testing Laboratories used  
Type de programme du laboratoire d'essais constructeur

CTF Stage 2

Model / Type Ref.  
Ref. De typeSeries MODULOSTAR CMS10  
references : see annex 1Additional information (if necessary may also be  
reported on page 2)  
Informations complémentaires (si nécessaire, peuvent  
être indiquées sur la 2ème page)Also complies with IEC 60269-1(ed.4.2)  
Supersedes the CB N° FR60032801C1  
Update the standard and series with TIN or Silver plated contactA sample of the product was tested and found  
to be in conformity with  
Un échantillon de ce produit a été essayé et a été  
considéré conforme à laPUBLICATION  
IEC 60269-2:2013(ed.5)EDITION  
ВЪРНО С  
ОРИГИНАЛАAs shown in the Test Report Ref. No. which forms part  
of this Certificate  
Comme indiqué dans le Rapport d'essais numéro de  
référence qui constitue partie de ce CertificatTR n° SMT/AP/033/18043B/1, 60032801-531414A, 60032801-531414A1,  
60032801-531414B, 60032801-531414E, 138601-679437This CB Test Certificate is issued by the National Certification Body  
Ce Certificat d'essai OC est établi par l'Organisme National de Certification**Laboratoire Central des Industries Électriques**33, av du Général Leclerc - BP 8  
FR 92266 Fontenay-aux-Roses cedex  
www.lcie.fr

Date:

2016-01-21

Signature:

На основание чл. 2  
от ЗЗЛД



## Annex 1

## REFERENCES, PRINCIPAL CHARACTERISTICS

Nb of pole	MODULOSTAR Fuse holder without fuse light melting Indicator		Nb of Mod. (17.5mm)	Pckg box of
	Catalog n°	Description		
1	CMS810N	MODULOSTAR CMS8/10 NEUTRE	1	12
1	CMS101	MODULOSTAR CMS10 1P	1	12
2	CMS101N	MODULOSTAR CMS10 1P+N	2	6
2	CMS102	MODULOSTAR CMS10 2P	2	6
3	CMS103	MODULOSTAR CMS10 3P	3	4
4	CMS103N	MODULOSTAR CMS10 3P+N	4	3
4	CMS104	MODULOSTAR CMS10 4P	4	3

Nb of pole	MODULOSTAR Fuse holder with fuse light melting indicator		Nb of Mod. (17.5mm)	Pckg box of
	Catalog n°	Description		
1	CMS101I	MODULOSTAR CMS10 1 P C/I	1	12
2	CMS101NI	MODULOSTAR CMS10 1P + N C/I	2	6
2	CMS102I	MODULOSTAR CMS10 2P C/I	2	6
3	CMS103I	MODULOSTAR CMS10 3P C/I	3	4
4	CMS103NI	MODULOSTAR CMS10 3P+N C/I	4	3
4	CMS104I	MODULOSTAR CMS10 4P C/I	4	3

ВЯРНО  
ОРИГИНАЛ

Additional Information (if necessary)  
Informations complémentaires (si nécessaire)






**Laboratoire Central des Industries Électriques**  
33, av du Général Leclerc – BP 8  
FR 92266 Fontenay-aux-Roses cedex  
www.lcie.fr

Date: 2016-01-21

Signature:

На основание чл. 2  
от ЗЗЛД

4,5

 	Accréditation N° 5-0014	 COFRAC COMMISSION FRANÇAISE D'ACCREDITATION DES ORGANISMES D'ESSAIS	Ref. Certif. No
			FR 60032801F1

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS D'ESSAIS DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE OC

### CB TEST CERTIFICATE CERTIFICAT D'ESSAI OC

Product  
Produit

Name and address of the applicant  
Nom et adresse du demandeur

Name and address of the manufacturer  
Nom et adresse du fabricant

Name and address of the factory  
Nom et adresse de l'usine

Rating and principal characteristics  
Valeurs nominales et caractéristiques principales

Trademark (if any)  
Marque de fabrique (si elle existe)

Model / Type Ref  
Ref. de type

Additional information (if necessary)  
Information complémentaire (si nécessaire)

A sample of the product was tested and found to be in conformity with  
Un échantillon de ce produit a été essayé et a été considéré conforme à la

As shown in the Test Report Ref. No. which forms part of this Certificate  
Comme indiqué dans le Rapport d'essai numéro de référence qui constitue partie de ce Certificat

Fuse-disconnector

**FERRAZ SHAWMUT SA**  
1 rue J. Novel - 69100 VILLEURBANNE - FRANCE

**FERRAZ SHAWMUT SA**  
1 rue J. Novel - 69100 VILLEURBANNE - FRANCE

See annex

32A, Ue : 690V AC (50/60Hz), utilization category : AC-20B, UI : 690V, 100kA (conditional short-circuit current) , 1 to 4 poles, manually operated

**FERRAZ SHAWMUT**

MODULOSTAR Series  
model : 10 X 38  
references : see annex overleaf

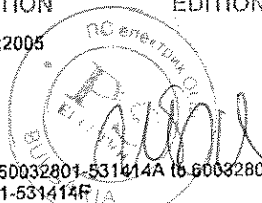
Cancels and replaces CBTC N° FR60032801F

PUBLICATION EDITION

IEC 60947-3:2001 (ed 2.1)+A2:2005

TR n° SMT/AP/033/18247B/1, 60032801-531414A to 60032801-531414C, 60032801-531414E, 60032801-531414F/A

ВЕРНО С  
ОРИГИНАЛА



ВЕРНО С  
ОРИГИНАЛА

This CB Test Certificate is issued by the National Certification Body  
Ce Certificat d'essai OC est établi par l'Organisme National de Certification



**Laboratoire Central des Industries Electriques**  
33, av du Général Leclerc – BP 8  
FR 92266 Fontenay-aux-Roses cedex  
www.lcie.fr

Date : 2005-10-17

Signature :

На основание чл. 2  
от ЗЗЛД

*Lucas*

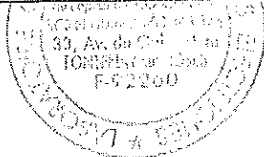
Name and address of factories :

- FERRAZ SHAWMUT SA - Rue J. de Vaucanson, 69720 Saint-Bonnet- de-Mure - France
- El Fahs Tunisia - BP 66 , 1140 EL FAHS - Tunisia

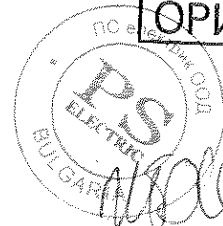
Family range - Model / type reference

Nb of pole	MODULOSTAR Fuse holder without fuse light melting indicator			Nb of Mod. (17.5mm)	Pckg box of
	Catalog n°	Ref. n°	Description		
1	CMS810N	D305006	MODULOSTAR CMS8/10 NEUTRE	1	12
1	CMS101	T305020	MODULOSTAR CMS10 1P	1	12
2	CMS101N	V305021	MODULOSTAR CMS10 1P+N	2	6
2	CMS102	W305022	MODULOSTAR CMS10 2P	2	6
3	CMS103	X305023	MODULOSTAR CMS10 3P	3	4
4	CMS103N	Y305024	MODULOSTAR CMS10 3P+N	4	3
4	CMS104	Z305025	MODULOSTAR CMS10 4P	4	3

Nb of pole	MODULOSTAR Fuse holder with fuse light melting indicator			Nb of Mod. (17.5mm)	Pckg box of
	Catalog n°	Ref. n°	Description		
1	CMS101I	A305026	MODULOSTAR CMS10 1 P C/I	1	12
2	CMS101NI	B305027	MODULOSTAR CMS10 1P + N C/I	2	6
2	CMS102I	C305028	MODULOSTAR CMS10 2P C/I	2	6
3	CMS103I	D305029	MODULOSTAR CMS10 3P C/I	3	4
4	CMS103NI	E305030	MODULOSTAR CMS10 3P+N C/I	4	3
4	CMS104I	F305031	MODULOSTAR CMS10 4P C/I	4	3



ВЯРНО  
ОРИГИНА



ВЯРНО С  
ОРИГИНАЛ





# Modulostar® CMS10

Modular fuse-holders

## Технически данни

	CMS10	CMS10I
Размер	10x38	10x38
Брой полюси/фази	1, 1+N, 2, 3, 3+N, 4	1, 1+N, 2, 3, 3+N, 4
Конвенционален топлоизточник на естествено охлаждане с предпазители I <sub>th</sub>	32 A	32 A
Топлинно разсейване при I <sub>th</sub>	3 W	3 W
Категория на утилизация	AC20B/DC20B	AC20B/DC20B
Номинално изолационно напрежение U <sub>i</sub>	690 V	690 V
SCCR	200 kA	200 kA
Номинално импулсно напрежение U <sub>imp</sub>	6 kV	6 kV
Степен на защита	IP 20	IP 20
Максимално напрежение за издикатора за изгорял предпазител	-	230 to 690V AC/DC
Индикаторна система	-	С индикатор
Свързване	<p>Max. момент на затягане: 2.2Nm (19lbs.-in)</p> <p>Твърд проводник = 1-16mm<sup>2</sup> (16-6AWG)  Многожичен проводник = 0.75-10mm<sup>2</sup> (18-8AWG)  PZ2 или плоска 5.5x1mm отверка пре-поръчано  (max. диаметър 6mm)</p>	<p>Max. момент на затягане: 2.2Nm (19lbs.-in)</p> <p>Твърд проводник = 1-16mm<sup>2</sup> (16-6AWG)  Многожичен проводник = 0.75-10mm<sup>2</sup> (18-8AWG)  PZ2 или плоска 5.5x1mm отверка пре-поръчано  (max. диаметър 6mm)</p>
Работна температура	-25°C до 60°C	-25°C до 60°C
Температура на съхранение	-25°C до 80°C	-25°C до 80°C
Вибрации	<p>Издържа по 3 те главни оси:  Изпитване със синусоидални вибрации съгласно IEC 60068-2-6  2 до 13Hz x= 1 mm пиково  13 до 100Hz y= 0.7g пиково  Съгласно френските изисквания за морско приложение  Изпитване на случайни вибрации съгласно IEC 61373  Категория 1 Клас B</p>	<p>Издържа по 3 те главни оси:  Изпитване със синусоидални вибрации съгласно IEC 60068-2-6  2 до 13Hz x= 1 mm пиково  13 до 100Hz y= 0.7g пиково  Съгласно френските изисквания за морско приложение  Изпитване на случайни вибрации съгласно IEC 61373  Категория 1 Клас B</p>
Удари	<p>Шоково изпитване съгласно IEC 61373  Категория 1 Клас B  Шоково изпитване съгласно IEC 60068-2-27  15g/11ms/18 удари</p>	<p>Шоково изпитване съгласно IEC 61373  Категория 1 Клас B  Шоково изпитване съгласно IEC 60068-2-27  15g/11ms/18 удари</p>

ВЯРНО С  
ОРИГИНАЛА



July