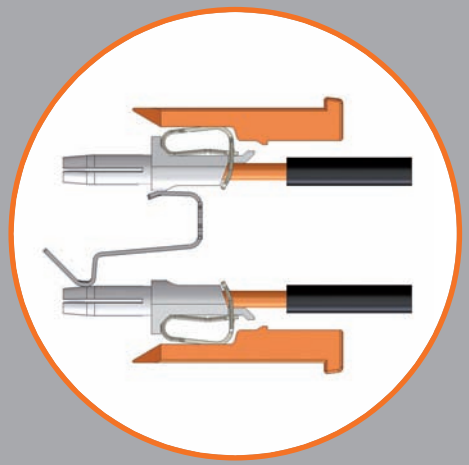
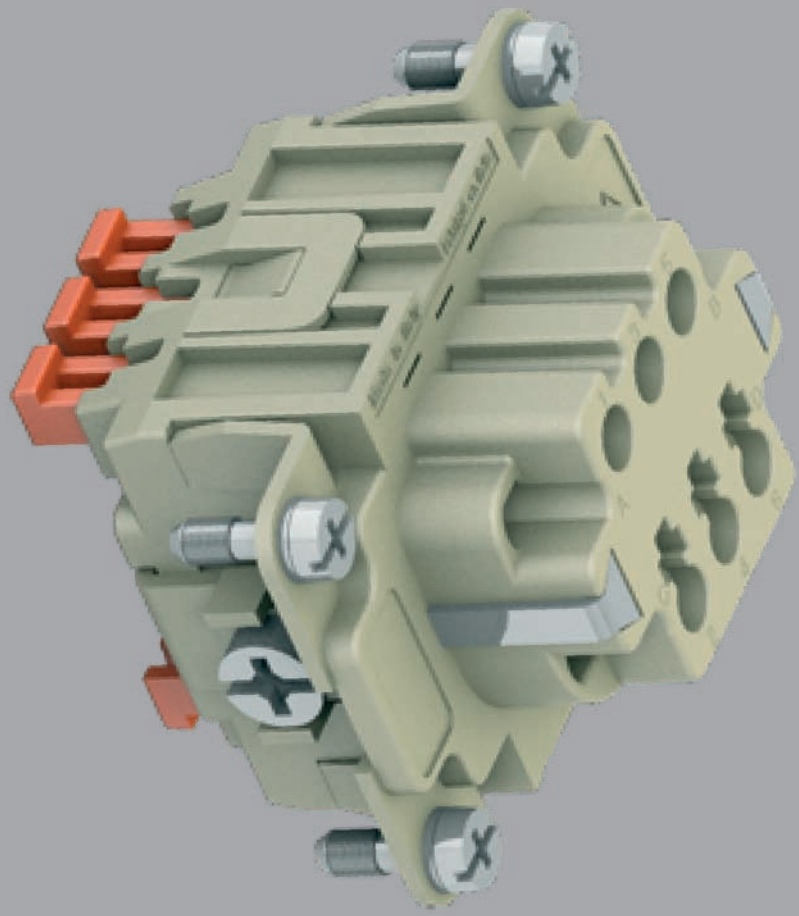
ENGLISH

Multipole connectors
AutoShort inserts CDSH NC





The Company and the Product

INDUSTRIA LOMBARDA MATERIALE ELETTRICO SpA has been operating **in Milan since 1938,** in particular in the electrotechnical sector for the manufacturing of equipment for industrial installations.
ILME reflects the traditional **entrepreneurial spirit of Lombardy,** and has enjoyed continuous expansion for over half a century.
The company has carved an important role for itself in the main world markets, also operating directly in the countries that have assumed world leadership in the field of automation, including Germany and Japan.
In the **electrical connection** sector with applications in industrial automation, characterised by **top performance** and utmost **reliability needs,** ILME is today the acknowledged partner of many leading companies worldwide.
The company's fundamental values are:

product innovation, original solutions, excellent **price-quality ratio,** a customer-oriented **sense of service,** ethical behaviour and an environmentally-friendly approach.
To promote the continuing improvement of its **qualitative results,** ILME has always encouraged its collaborators to work with utmost **responsibility and participation.**
The company focuses on a series of benefits to the user, including research into the most suitable materials, high quality and safe cabling, a rapid turnaround and readily available services.

CE marking

As from 1 January 1997, in order to launch electrical products on the European market the manufacturer must ensure these bear the relevant CE marking, in line with the Low Voltage Directive 73/23/EEC * (implemented in Italy as law 18-10-1977 no. 791) and its modification 93/68/EEC * (implemented in Italy as L. D. 25-11-1996 no. 626/96, published in the supplement to the Gazzetta Ufficiale of 14-12-1996).
Said marking must be placed on the product - or, if this is not possible, on the packaging, the instructions for use or the warranty certificate - and acts as a declaration by the manufacturer that the product complies with all relevant EU directives.

ILME products bear the CE marking on the product or packaging.

Almost all ILME products fall under the Low Voltage Directive. A declaration of compliance is required before applying the CE marking. This document, to which the market is not directly entitled, must be made available to the control authorities (in Italy the Ministry for Industry, Commerce and Handicraft) at all times.
In it, the manufacturer declares the technical safety standard(s) followed to manufacture the product. These standards must be, in decreasing order of preference:

- a European standard (EN prefix)
- a European harmonisation document (HD prefix)
- an international IEC standard
- a national standard
- in the absence of reference standards, the manufacturer's internal specifications, guaranteeing compliance with the directive's basic safety requirements.

Compliance with harmonised technical standards (i.e. ratified by the CENELEC) constitutes presumed conformity to the directive's basic safety requirements.
The CE marking of ILME products results from said products' declaration of conformity to harmonised standards or international IEC standards.
Through the CE marking, ILME declares full compliance, not merely with the directive's basic safety requirements, but also with those international or national EU standards on which voluntary safety certification markings are based (e.g. IMQ and VDE).
In this way, ILME intends to award the CE marking the value of self-certification in terms of safety, given the loss in legal value of voluntary certifications issued by third parties, ratified by directive 93/68/EEC *.
Notwithstanding the above, practically all ILME products still bear voluntary conformity markings.

This EC declaration of conformity becomes null and void when the assembly of products includes one or more components not manufactured by us and without EC approval.

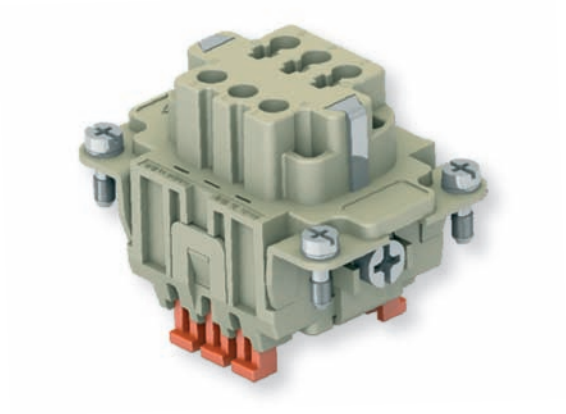
*** Note:**
new legal reference for the Low Voltage Directive is 2006/95/EC which is the consolidated edition of Directive 73/23/EEC + Directive 93/68/EEC.

On March 29, 2014, the new Low Voltage directive 2014/35/EU has been published on the Official Journal of the European Union, as a recast of the previous directive 2006/95/EC. It will enter into force on April 20, 2016.

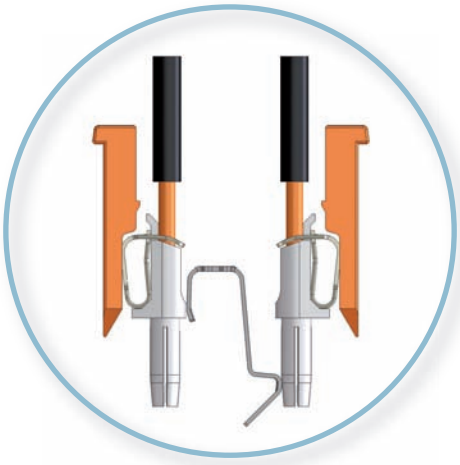
Certification ISO 9001: 2008
Design, manufacture and distribution of industrial electrical equipment (IAF 19, 29a)
Certificate No. 50 100 11133

AutoShort Connector

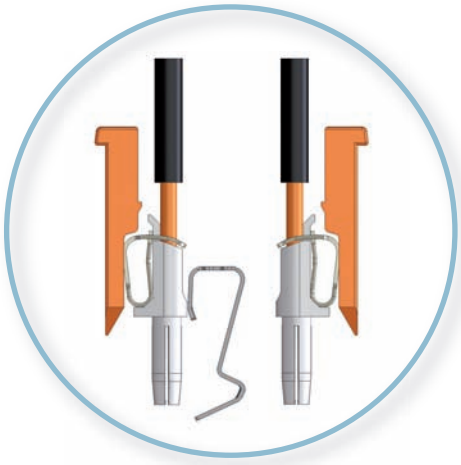
for the interfacing of measuring current transformer



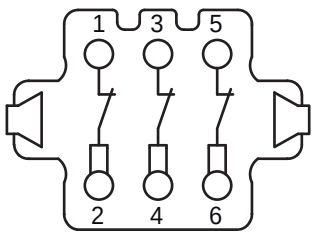
3 contact pairs with an AutoShort NC contact element



①



②

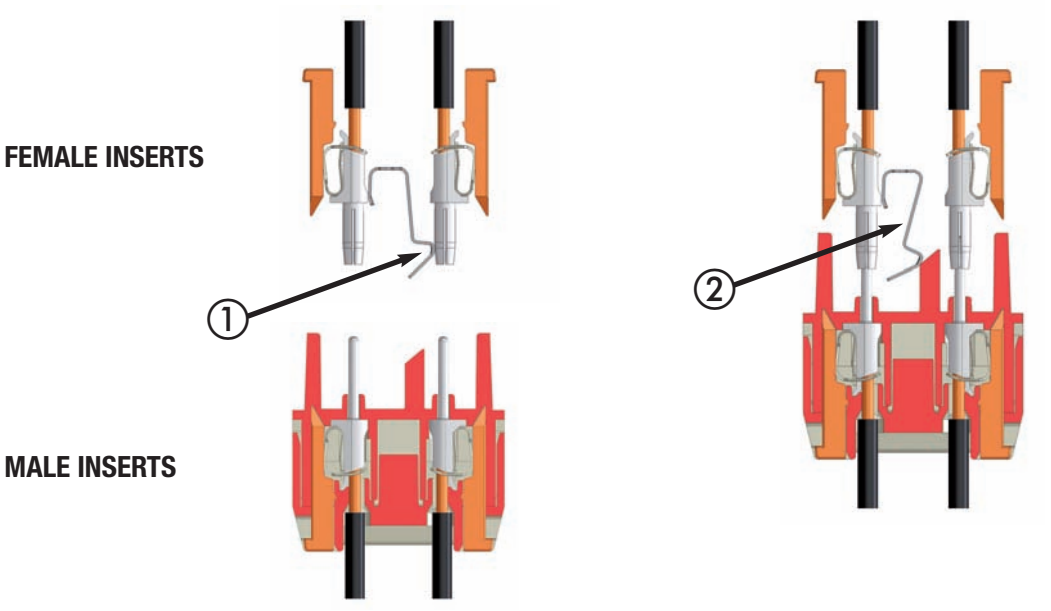


CDSH NC - SQUICH® series

AutoShort connector

ILME developed an innovative connector **suitable for interfacing measuring current transformers** (CTs) with the dedicated electronic measurement processing equipment. Use of such systems is increasing in transformer substations with the diffusion of smart grid concepts due to the growth of self-standing power generation plants (photovoltaic, wind).
The new **CDSH…NC** connector has the same dimensions of a 6 poles size "44.27" CSH connector, and it is **easy to wire thanks to ILME proprietary SQUICH® tool-less quick connection technology**.
Inside the female insert, for **each of the three contact pairs 1-2, 3-4 and 5-6**, a suitable spring element is foreseen, **providing a NC (normally closed) contact between the female contact pair**.
Said short-circuit element automatically **establishes a short-circuit between the female contact pair while the connector is being unmated**, before the complete withdrawal of the corresponding male connector.
This protects the measuring current transformer's secondary windings to which this connector is deemed to be wired, against the high voltage that would arise if the ends of each winding were left open while the primary winding (the power line busbars) are still under load.
During the mating of these specially designed connector inserts, **three corresponding actuator pins realized on the mating face of the male connector**, once the male contacts are already engaged with the corresponding female contacts, **push aside the facing end of the AutoShort NC contact element**, in order to release the short-circuit previously provided. In mated condition the proper termination of the secondary windings of the CT must be provided by the customer's downstream circuit, e.g. by suitable resistors.

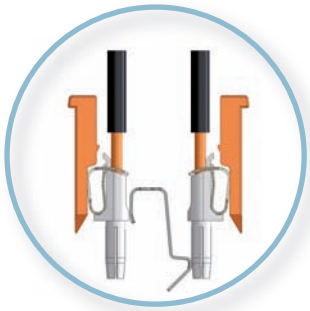
AUTOSHORT NC (NORMALLY CLOSED CONTACT ELEMENT)



This new **CDSH…NC** connector can be used only for connecting up to three secondary (output) windings of measuring current transformers to specific measuring circuits; on the female side each contact pair is provided with said AutoShort NC contact element, to keep the secondary winding ends shorted while the female connector is not engaged with the male connector, thus avoiding damages to the insulation of the current transformer and consequent hazardous condition for the personnel operating the unmating of the connector while the power busbars are energized. When the female and male connectors are being mated, the short-circuit is released after proper electrical engagement of the two connector halves, thus allowing again current measurement by the dedicated electronic measurement processing equipment wired on the male connector side.
The new connector inserts can be used in size "44.27" connector enclosures, either metal (conductive) or thermoplastics (insulating), with up to IP68 degree of protection (IP66/IP68 with series CG/MG), within enclosures for aggressive environments (series "W") or with up to IP66/IP69 within series T-TYPE HYGIENIC enclosures for hygienic applications.

CDSH NC - SQUICH® series

AutoShort connector



REQUIREMENTS

- **Connections**: 3 pairs of contacts (with autoshunt on each pair of female connector), plus protective earth, size 44.27 housings
- **Electrical contacts**: 6 spring clamp type contacts with actuator (SQUICH®) made by copper alloy, silver plated
- **Wire gauge range**: 0,14 ÷ 2,5 mm^2 (AWG 26 ÷ 14) for solid or unprepared stranded copperwires,
  0,14 ÷ 1,5 mm^2 (AWG 26 ÷ 16) for stranded copper wires prepared with ferrules
- **Temperature range**: -40 °C ÷ +125 °C
- **Rating**: 6A 250V 4kV 3; 6A 500V 4kV 2 according EN 61984
  Fault condition (rated short time thermal current): 50A for 1 s
- **Flammability**: 94V – 0 according to UL 94
- **Mating cycles**: ≥ 50
- **Contact resistance (connector mated)**: ≤ 3 mΩ
- **Insulation resistance**: ≥ 10 GΩ
- **Degree of protection**: IP20 (connector without housing), IP65 or IP66 (connectors in T-TYPE housings), IP66 or more (connectors in ILME metal housings)

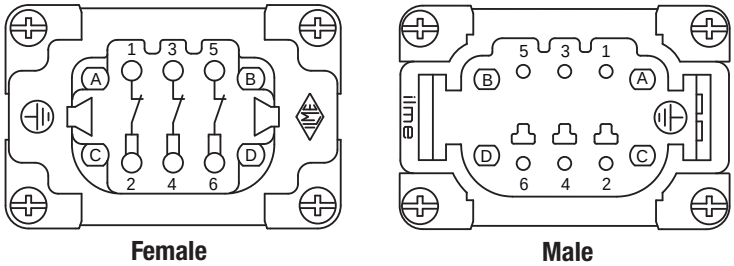
PIN ASSIGNMENT

Female inserts with NC shorting contacts between contacts of pairs 1-2, 3-4, 5-6, opening upon with male inserts.

Pin assignment of contacts for the connector is the following:

Pin	Assignment
1	Winding 1 start
2	Winding 1 end
3	Winding 2 start
4	Winding 2 end
5	Winding 3 start
6	Winding 3 end
PE	Protective Earth

View from the contact side



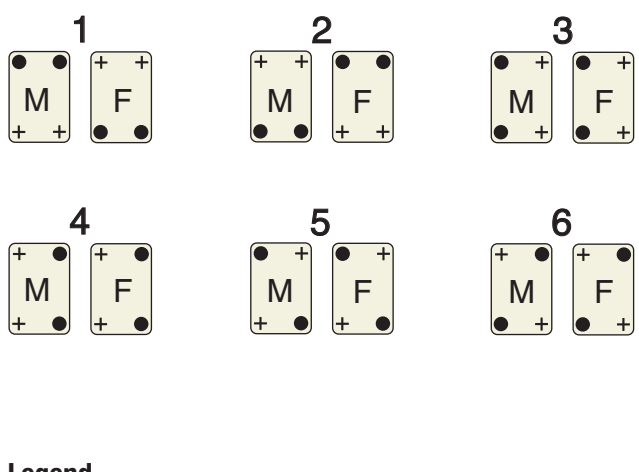
Female **Male**

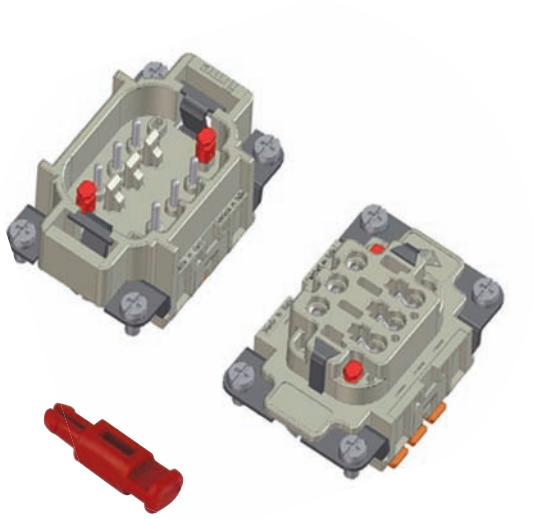
CDSH NC - SQUICH® series

AutoShort connector

Optionally, it is possible to add the four special coding pins **CR CDS** that allow up to 6 different codings, by installing 2 coding pins on the male connector half and correspondingly 2 on the female connector half, according to the coding scheme provided in the following:

CODING SCHEME





Legend

● = coding pin installed
\+ = no coding pin

The CR CDS coding pins can also be used in combination with other CR 20 / CRM / CRF / CR 72 metal pins instead of insert fixing screws in order to increase the number of possible combinations.

enclosures:
size "44.27" page:

panel supports: page:

refer to catalogue page CN.16

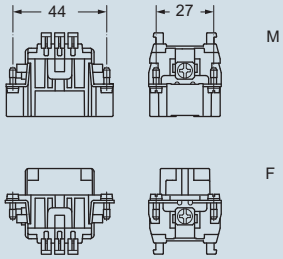
inserts,
spring clamp connections with actuator pin,
female inserts with NC shorting contacts

silver plated contacts

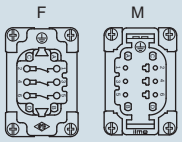
description	part No.
spring terminals with actuator button female inserts with female contacts male inserts with male contacts	**CDSHF 06 NC** **CDSHM 06 NC**

- characteristics according to EN 61984:
  6A 250V 4kV 3
  6A 500V 4kV 2
  10A with connector mated
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +125 °C
- made of self-extinguishing thermoplastic resin 94V-0 according to UL 94
- mechanical life: ≥ 50 cycles
- contact resistance: ≤ 3 mΩ
- NC = Normally Closed

dimensions in mm

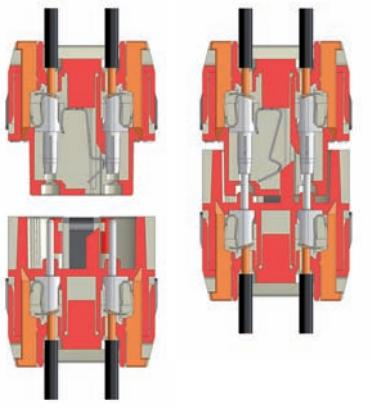


contacts side (front view)



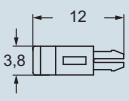
- inserts for conductors cross-section:
  0,14 - 2,5 mm² - AWG 26 - 14
- for wires with crimped ferrule, useful cross-section:
  up to 1,5 mm² - AWG 16
- conductors stripping lenght: 9...11 mm

Female inserts with NC shorting contacts

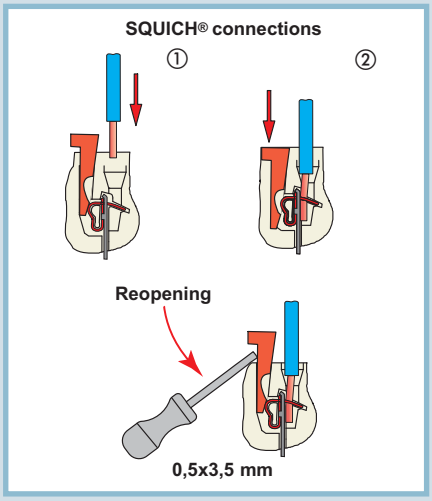


Male inserts

CR CDS coding pin



SQUICH® connections



dimensions shown are not binding
and may be changed without notice

I.L.M.E. SpA
via Marco Antonio Colonna, 9
20149 Milano - Italy
☎ +39 02345605.22 - fax +39 0233105813
www.ilme.com

ILME FRANCE S.A.R.L.
Rue Roland Garros - BP 125
Parc d'Activités de l'Aéroport
42163 Andrézieux-Bouthéon
☎ +33 (0) 4 77 36 23 36 - fax +33 (0) 4 77 36 97 97
e-mail: ilme-france@ilme.fr - www.ilme.fr

ILME GmbH
Max-Planck-Straße 12 - 51674 Wiehl
☎ +49 (0)2261 - 7955-0
fax +49 (0)2261 - 7955-5
e-mail: technik@ilme.de - www.ilme.de

ILME UK LIMITED
50 Evans Road, Venture Point
Speke, Merseyside L24 9PB
☎ +44 (0) 151 3369321 - fax +44 (0) 151 3369326
e-mail: sales@ilmeuk.co.uk - www.ilmeuk.co.uk

ILME NORDIC AB
Transportvägen 18
24642 Löddeköpinge (Sweden)
☎ +46 46 18 28 00 - fax +46 46 18 28 10
e-mail: info@ilme.se - www.ilme.se

ILME JAPAN CO., LTD.
Kobe International Business Center - 650-0047, 5-2, 5 - Chome,
Minatojima Minami-Machi - Chuo-Ku, Kobe Japan
☎ +81 7830 22005 - fax +81 7830 22060
www.ilme.jp

ILME CHINA REP. OFFICE
Room 201 Universal Centre, no. 175 XiangYang NanLu, XuHui Dis., - 200031 Shanghai
☎ +86 - 21 - 62489961 - fax +86 - 21 - 62489961
www.ilmechina.com

w w w . i l m e . c o m

XDG SHNC 316

catalogues