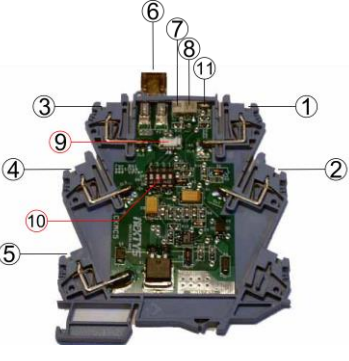
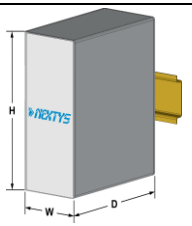
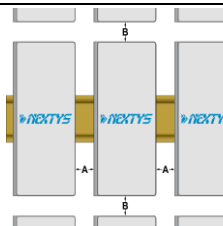
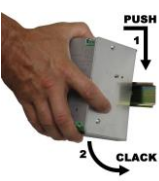
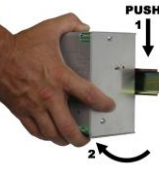


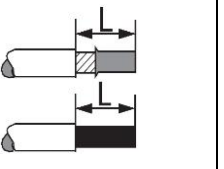


Fig.1 Connection	Fig.2 Dimensions	Fig.3 Distances	Fig.4														
 <p>(1) CL4 / A2 (-) Input (2) CL5 / A1 (+) Input (3) CL3 (- / GND) Output Load (4) CL2 / 13 (VCC) Output (5) CL1 / 14 (Load) Output Load (6) Fuse (7) Power regulation adjustment (8) Softstart duration adjustment (9) Connector for external Softstart potentiometer (10) SW1: Softstart setting (11) Green LED: Input OK</p>	 <table border="1"> <thead> <tr> <th>Dimension</th> <th>mm</th> </tr> </thead> <tbody> <tr> <td>W</td> <td>7.7</td> </tr> <tr> <td>D</td> <td>90</td> </tr> <tr> <td>H</td> <td>112</td> </tr> </tbody> </table>	Dimension	mm	W	7.7	D	90	H	112	 <table border="1"> <thead> <tr> <th>Distance</th> <th>mm</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>5</td> </tr> <tr> <td>B</td> <td>20</td> </tr> </tbody> </table>	Distance	mm	A	5	B	20	<p>Hook up</p>  <p>Unhook</p> 
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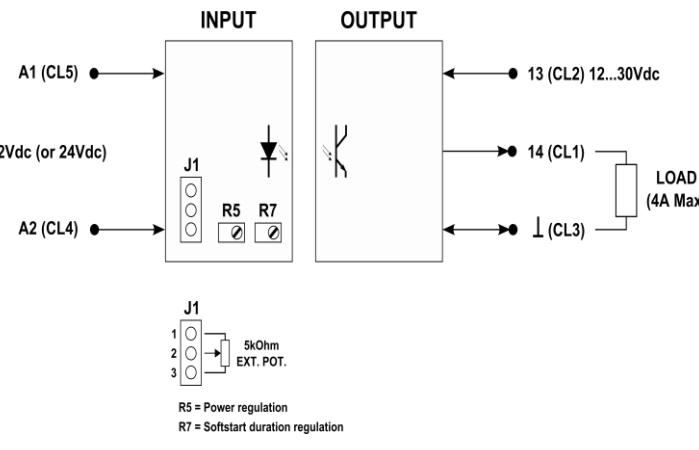
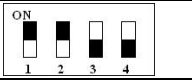
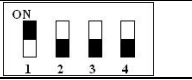
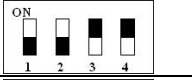
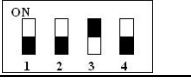
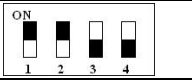
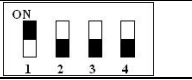
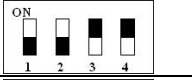
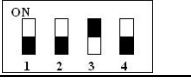
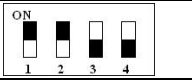
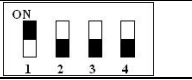
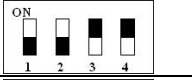
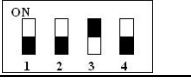
Instruction Manual			
Models	CKMC5 – Softstart for DC Load		
File No.:	I.S.CKMC5.V1.0	Rev.:	1.0



Nextys SA. Via Luserte Sud 8, 6572 Quartino – Switzerland
Phone: +41-(0)91 8401446 / 8401448; Fax: +41-(0)91 8401447

Fig.5 – Recommended connecting cable	Fig.6 – Output protection
 <p>5 Spring Clamp</p>	 <p>Solid: 2.5mm² / 26 - 14AWG Stranded: 2.5mm² / 26 - 14AWG L: 5.5 – 6.5mm / 0.22 - 0.26 in</p> <p>Mini blade fuse 7.5AF User replaceable</p>

READ THIS CAREFULLY BEFORE INSTALLATION!	LEGGERE ATTENTAMENTE PRIMA DELL'INSTALLAZIONE!	A LIRE ATTENTIVEMENT AVANT L'INSTALLATION!
<p>Before operating, read this manual thoroughly and retain it for future reference. Non-respect of these instructions may reduce performances and safety of the devices and cause danger for people and property. The products must be installed, operated, serviced and maintained by qualified personnel in compliance with applicable standards and regulations. Don't open the device, it does not contain replaceable components, the tripping of the internal fuse (if included) is caused by an internal failure. Don't repair or modify the device, if malfunction or failure should occur during operation, send unit to the factory for inspection. No responsibility is assumed by Nextys SA for any consequences deriving from the use of this material.</p>	<p>Prima dell'installazione, leggere attentamente queste istruzioni e conservarle per future consultazioni. L'inosservanza delle presenti istruzioni può compromettere le caratteristiche e la sicurezza dell'apparecchio e causare pericolo per le persone e le cose. Il prodotto deve essere installato, utilizzato e riparato da personale qualificato e nel rispetto delle normative vigenti. Non aprire il prodotto, esso non contiene componenti sostituibili, il guasto del fusibile interno (se previsto) è causato da un guasto interno. Non tentare di riparare o modificare il prodotto, se durante il funzionamento si verificano guasti o anomalie, inviarlo al produttore per il controllo. Nextys SA non si assume nessuna responsabilità per qualunque conseguenza derivante dall'uso di questo materiale.</p>	<p>Lisez ces instructions avant l'installation, conservez ce manuel pour référence future. Défaut de se conformer à ces instructions peut affecter les caractéristiques et la sécurité du dispositif de danger et de causer aux personnes ou aux biens. Le produit doit être installé, exploité et entretenu par personnel qualifié et en conformité avec les règlements. N'ouvrez pas le produit, il ne contient aucune pièce réparable, le déclenchement du fusible interne (le cas échéant) est causée par un défaut interne. Ne pas tâtonner pour réparer ou modifier le produit, si des défaillances se produisent pendant le fonctionnement ou les dysfonctionnements, le retourner au fabricant pour inspection. Nextys SA n'assume aucune responsabilité des conséquences éventuelles découlant de l'utilisation de cette documentation.</p>
CAUTION	ATTENZIONE	AVVERTISSEMENT
<p>RISK OF BURNS, EXPLOSION, FIRE, ELECTRICAL SHOCK, PERSONAL INJURY. Never carry out work on live parts! Danger of fatal injury! The product's enclosure may be hot, allow time for cooling product before touching it. Do not allow liquids or foreign objects to enter into the products. To avoid sparks, do not connect or disconnect the device before having previously turned-off input power and wait for capacitors discharge.</p>	<p>RISCHIO USTIONI, ESPLOSIONE, INCENDIO, SCOSSA, LESIONI GRAVI. Non effettuare mai operazioni sulle parti in tensione! Pericolo di lesioni letali! Il contenitore può scottare, lasciar quindi raffreddare il dispositivo prima di toccarlo. Non far entrare liquidi o oggetti estranei nel dispositivo. Per evitare scintille, non collegare o scollegare l'apparecchiatura prima di avere tolto tensione di ingresso e prima che sia avvenuta la scarica dei condensatori.</p>	<p>RISQUE DE BRULURES, EXPLOSION, INCENDIE, ELECTROCUTION, DOMMAGE AUX PERSONNES. Ne jamais effectuer des opérations sur les parties sous tension! Danger de mort! Le récipient peut graver, le laisser refroidir avant de toucher l'appareil. Ne vous laissez pas liquide ou corps étranger dans l'appareil. Pour éviter des étincelles, ne pas connecter ou déconnecter l'équipement jusqu'à ce que vous avez supprimé la tension d'entrée et avant qu'elle n'ait lieu de décharge des condensateurs.</p>
INTENDED USE	USO PREVISTO	UTILISATION
<p>These are isolation devices suitable for SELV and PELV circuitry and are designed to be mounted on DIN rail and installed inside a protective enclosure. They are intended for general use such as in industrial control, communication, and instrumentation equipment. Don't use these devices in applications where malfunction may cause injury or death.</p>	<p>Sono dispositivi adatti per applicazioni SELV e PELV, sono dotati di aggancio per il montaggio su guida all'interno di quadri elettrici o contenitori di protezione per l'utilizzo con controllori industriali, unità di comunicazione o apparecchi di misura. Non utilizzare in applicazioni in cui un eventuale guasto può comportare rischio di lesioni o di morte.</p>	<p>Les produits sont propice pour les circuits TBTS et TBTP et sont équipé d'un crochet pour montage sur rail dans les armoires ou contenants sécurisés, pour utilisation avec les contrôleurs industriels, des modules de communication ou les unités de mesure. Ne pas utiliser ces dispositifs dans l'application où un dysfonctionnement pourrait entraîner des blessures ou morts.</p>
ENVIRONMENTAL CHARACTERISTICS	CARATTERISTICHE AMBIENTALI	CARACTÉRISTIQUES D'ENVIRONNEMENT
<p>Installation in a Pollution Degree 2 environment, Overvoltage Category II, according to IEC 664-1 Do not use in wet area or subject to moisture. Carefully recycle the product and related batteries according to local regulations.</p>	<p>Usare in ambienti con Grado di Inquinamento 2 e Categoria di Sovratensione II, secondo IEC 664-1. Non far funzionare l'apparecchio in un ambiente umido o soggetto a formazione di condensa. Riciclare il prodotto e le batterie collegate, nel rispetto delle normative locali vigenti.</p>	<p>Utilisé dans les environnements avec degré de pollution 2, catégorie de surtension II selon IEC 664-1. Ne pas faire fonctionner l'appareil dans un environnement humide ou soumis à la condensation. Recycler les produits et les accus, conformément à la réglementation locale.</p>

Fig.7 – Connection	Fig.8 – Softstart setting and regulation								
 <p>INPUT A1 (CL5) → 12Vdc (or 24Vdc) A2 (CL4) →</p> <p>OUTPUT ← 13 (CL2) 12...30Vdc ← 14 (CL1) → LOAD (4A Max) ← (CL3) ↓</p> <p>J1 1 5kOhm 2 EXT. POT. 3</p> <p>R5 = Power regulation R7 = Softstart duration regulation</p>	<p>Power regulation 100% → 0% R5 R7 Softstart duration regulation Max → min</p> <p>Power regulation is always active, with Softstart ON or Softstart OFF. Softstart duration regulation is active with Softstart ON.</p> <p>With internal potentiometer</p> <table border="1"> <tr> <td>ON</td> <td></td> </tr> <tr> <td>OFF</td> <td></td> </tr> </table> <p>With external potentiometer</p> <table border="1"> <tr> <td>ON</td> <td></td> </tr> <tr> <td>OFF</td> <td></td> </tr> </table>	ON		OFF		ON		OFF	
ON									
OFF									
ON									
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INSTRUCTIONS

- 1) Description:** DIN rail Softstart for DC Load, that includes Power level and Softstart duration adjustable with 2 user settable potentiometer.
- 2) Installation:** use DIN-rails according to EN60715. Installation should be made vertically (see Fig.4). For better device stability fix the rail to the wall close to the point where the device is to be mounted. In order to guarantee sufficient convection, we recommend observing a minimum distance to other modules (see Fig.3).
- 3) Connections:** the device is equipped with pluggable screw terminals. To avoid sparks, do not connect or disconnect the connectors before having previously turned-off input power and waited capacitors discharge.
In order to comply with UL certification, use appropriate copper cables of indicated cross section, designed for an operating temperatures of 60°C (for ambient <45°C) and 75°C (for ambient < 60°C).
Strip the connecting ends of the wires according to the indication on Fig.5 and ensure that all strands of a stranded wire enter the terminal connection.
- 4) Input/Output connection:** The device is suitable for SELV and PELV circuitry.
Check Uout before connecting the power supply to the load.
- 5) Operating:** Connect the CKMC5 as indicated in Fig.7.
The CKMC module can be used for:
 - allowing to operate high inrush current loads in conjunction with power supplies that have low overload capability or hiccup type of current limitation.
 - DC loads where a power regulation is necessary, for example in motors and lamps. Remote power regulation is possible by use of an external potentiometer.

The used technique is PWM (Pulse Width Modulation).
It is equipped with a Softstart circuit in order to avoid the known current peaks problems on inductive, capacitive or high dynamic loads as motors, lamps, coils and power supplies.
The Power regulation and the Softstart duration are adjustable through two internal potentiometers (see Fig.8)
When an external potentiometer (see Fig.7 - 5KOhm) is used for remote Power regulation this mode is settable through an internal switch (see Fig.1).

- 6) Warning:**
Before powering the unit check as follows:
- Input and output polarity
 - Input and output voltage, U_{IN} max = 28VDC (or 15VDC) and U_{OUT} max = 48VDC
 - Max. load current, I_{OUT} Max = 4A
- 5) Warranty:** The device is guaranteed free from factory defects for the time specified in the "Sales Conditions"
Failures caused by misuse, external and/or abnormal events (i.e. overvoltage, over temperatures) or non-respect of above parameters and standards, are not covered by warranty.
Opening the housing of the product makes warranty to be no longer valid.
In order to improve the products Nextys SA reserves the right to change product specifications, ratings and data without previous advice.

DECLARATION OF CONFORMITY

		NEXTYS SA. (www.nextys.com) Via Luserte Sud 8, 6572 Quartino - Switzerland Phone: +41-(0)91 840 14 46 / 840 14 48; Fax: +41-(0)91 840 14 47 E-mail: info@nextys.com	
This Declaration of Conformity is suitable to the European Standard EN 45014 "General criteria for supplier's declaration of conformity".			
We declare under our sole responsibility that the material under described:			
Code CKMC5	Description Super Slim PWM Controller and Softstart for DC Loads		
Has passed all processing inspections and the final test and it is in conformity with the product requirements, including all reference codes and supply specifications.			
ROHS compliance: the product respects the EC requirements related to ROHS substances, according to "Restriction of Hazardous Substances" as per document 2011/65/UE REACH compliance: the product respects the EC requirements related to REACH SVHC directive (2010) Note: all the reported information comes from our suppliers, NEXTYS SA. Has not run any test to evaluate if the specific elements are present.			
Certifications and approvals			
Reference standards:	2006/95/EC (2006) EN60950-1 (2006-04/A11:2009) UL508 2004/108/EC (2004) EN61000-6-2 (2005) EN61000-6-4 (2007)	(Low Voltage Directive) (Safety Standards reference) (Safety Standards reference) (EMC directive) (Generic immunity standard, industrial environment) (Generic emission standard, industrial environment)	

Date: 01.10.2014

Place: Quartino, Switzerland

The product manager



Marius Ciorica

TECHNICAL DATA (1)	NOTES
Model type	CKMC5
OUTPUT DATA	
Output voltage	12.0...30.0Vdc (48Vdc Max)
Continuous current	4.0A
Overload limit	6.0A Max for 30s
Softstart duration	Adjustable 0.5...5.0s with potentiometer Adjustable with external potentiometer (5KOhm)
Power regulation range	Adjustable 0...100% with potentiometer
Protections	Short circuit (Mini blade fuse 7.5AF user replaceable) Reverse polarity Transient Overvoltage
INPUT DATA	
Input voltage for control side	12Vdc or 24Vdc
GENERAL DATA	
Operating temperature	- 20°C...+45°C (no derating)
Overvoltage category	I
Pollution degree	2 (IEC 664-1)
Insulation enclosure to live parts	0.75 kVdc
Standards, Approvals / Certifications	UL508 (reference) – EN60950 (reference) – CE Marking
EMC Standards	EN61000-6-4, EN61000-6-2
Protection degree	IP20 acc. to EN60529
Connection terminals	6 poles, 2.5mm ² , spring clamp terminal
Case Material	Polyamide enclosure (UL94V0)
Mounting Rail	IEC 60715/H15/TH35-7.5(-15)
Approx. weight	0.100 kg
Size (W x H x D)	7.7 x 112.0 x 90.0mm (See Fig.2)
Rail mounting information	Vertical – Horizontal (See Fig.3)

NOTES

(1) if not otherwise specified, all technical data are typical and measured at 25°C, and nominal U, I output.