Series MS11-CMX

3 -10 Amp • 0-200 Vdc • DC Output

- DIN Rail Mount (TS 35)
- MOSFET Output
- Extra Low On State Resistance
- Input Status LED

DC output SPST-NO solid state relays use MOSFET output for high switching capabilities in a DIN Rail (TS-35) mount air-cooled package.

MODEL NO.	MS11-CMX60D5	MS11-CMX60D10	MS11-CMX100D6	MS11-CMX200D3
INPUT SPECIFICATIONS ①				
Control Voltage Range	5-10 Vdc	5-10 Vdc	5-10 Vdc	6-10 Vdc
Nominal Input Impedance	300 Ohm	300 Ohm	300 Ohm	300 Ohm
Typical Input Current @ 5 Vdc	12 mA	12 mA	12 mA	12 mA
Must Turn On Voltage	5 Vdc	5 Vdc	5 Vdc	6 Vdc
Must Turn Off Voltage	1.0 Vdc	1.0 Vdc	1.0 Vdc	1.0 Vdc
OUTPUT SPECIFICATIONS ①③				
Operating Voltage Range	0-60 Vdc	0-60 Vdc	0-100 Vdc	0-200 Vdc
Load Current Range	0-5 Adc	0-10 Adc	0-6 Adc	0-3 Adc
Max. Surge Current, (10 msec)	60 Apk	100 Apk	100 Apk	30 Apk
Max.Off-State Leakage @ Rated Voltage	100 µAdc	100 µAdc ④	100 µAdc	100 µAdc
Max. On-State Resistance @ Rated Current (R_{DS-ON})	.10 Ohm	.018 Ohm	.040 Ohm	.20 Ohm
Max. On-State Voltage Drop @ Rated Current	0.5V	0.18V	0.24V	0.6V
Max.Turn-On Time @ 10Vdc Control	1.0 msec	1.0 msec	1.0 msec	1.0 msec
Max. Turn-Off TIme @ 10Vdc Control	300 µsec	300 µsec	300 µsec	300 µsec

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GENERAL NOTES

① All parameters at 25ºC unless otherwise specified.
② Dielectric and insulation resistance are measured between input and output.
③ Inductive loads should be diode suppressed.
④ At 55 Vdc.

For recommended applications and more information contact:
USA: Sales Support (877) 502-5500 **Tech Support** (877) 702-7700 FAX (619) 710-8540
Crydom Inc., 2320 Paseo de las Americas, Ste. 201, San Diego, CA 92154
Email: sales@crydom.com **WEB SITE:** http://www.crydom.com
UK: +44 (0)1202 606030 • **FAX** +44 (0)1202 606035 Crydom SSR Ltd., Arena Business Centre, Holyrood Close, Poole, Dorset BH17 7FJ, Email: intsales@crydom.com.
GERMANY: +49 (0)180 3000 506

Series MS11-CMX

3 -10 Amp • 0-200 Vdc • DC Output

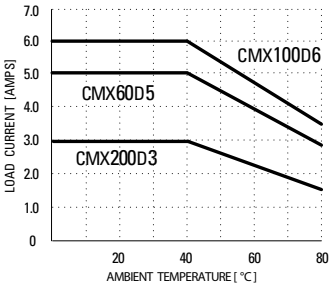
GENERAL SPECIFICATIONS

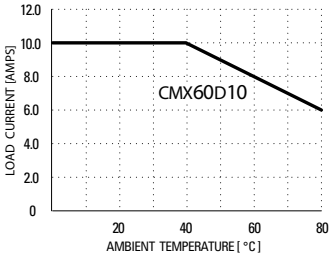
Dielectric Strength ②	2500 Vrms
Insulation Resistance (Min.) @ 500 Vdc ②	10^9 Ohm
Max. Capacitance (Input/Output)	15 pF
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-30 to 125°C

MECHANICAL SPECIFICATIONS

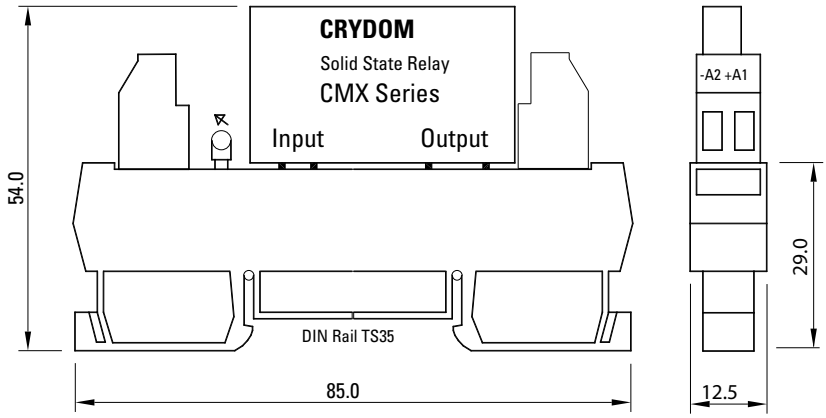
Weight: (typical)	30 g
Encapsulation(SSR):	Thermally Conductive Epoxy

CURRENT DERATING CURVES





Max. Load Current vs. Temp.



All dimensions are in millimeters (not to scale)
Colour of carrier including terminations - orange

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APPROVALS (SSR ONLY)

UL E116950 (3A, 6A & 10A Models)

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GERMANY: +49 (0)180 3000 506

Series MS11-CX

5 Amp• 240 Vac• AC Output

- **DIN Rail Mount (TS-35)**
- **SCR Output Rating**
- **Ultra High Surge**
- **Crydom's Patented Design**
- **Input Status LED**

Crydom's family of SPST-NO relays achieves the highest power switching capability in a DIN mounted air-cooled package. Advanced features include exceptional steady state current, plus ultra-high surge ratings. Models are available to switch up to 280 Vrms with AC or DC control, and either zero-cross or random turn-on ("R") switching versions.

MODEL NUMBERS		
	AC CONTROL (120Vac)	**MS11-CX2405A**
	(24Vac)	**MS11-CXE240A5**
	DC CONTROL (5Vdc)	**MS11-CX240D5**
	(24Vdc)	**MS11-CXE240D5**

OUTPUT SPECIFICATIONS ①

Operating Voltage (47-63 Hz) [Vrms]	12-280
Load Current Range [Arms]	.06-5
Transient Overvoltage [Vpk]	600
Max. Surge Current, (16.6ms) [Apk]	250
Max. On-State Voltage Drop @ Rated Current [Vpk]	1.4
Maximum I^2t for Fusing, (8.3 msec.) [A^2sec]	260
Max. Off-State Leakage Current @ Rated Voltage [mArms]	0.1
Min. Off-State dv/dt @ Max. Rated Voltage [V/µsec] ②	500
Max. Turn-On Time ③	1/2 Cycle (DC Control), 10.0 msec (AC Control)
Max. Turn-Off Time	1/2 Cycle (DC Control), 40.0 msec (AC Control)
Power Factor (Min.) with Max. Load	0.5

INPUT SPECIFICATIONS ①

	DC CONTROL		AC CONTROL ④	
Nominal Voltage	5Vdc	24Vdc	120Vac	24Vac
MODEL NUMBERS	**MS11-CX240D5**	**MS11-CXE240D5**	**MS11-CX240A5**	**MS11-CXE240A5**
Control Voltage Range	4-5 Vdc	15-32 Vdc	90-140 Vrms	18-36 Vrms
Max. Turn-On Voltage	3.0 Vdc	15.0 Vdc	90.0 Vrms	18.0 Vrms
Min. Turn-Off Voltage	1.0 Vdc	1.0 Vdc	10.0 Vrms	2.0 Vrms
Nominal Input Impedance	300 Ohm	1.0k Ohm	14.1k Ohm	4.2k Ohm
Typical Input Current @ Nominal Voltage	12 mA	8 mA	10 mArms	5 mArms

GENERAL NOTES

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① All parameters at 25ºC unless otherwise specified.

② Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1

③ Turn-On Time for Random Turn-On versions 0.1msec (DC Control Models).

④ No input status LED on AC control modules.

For recommended applications and more information contact:
USA: Sales Support (877) 502-5500 **•Tech Support** (877) 702-7700 • **FAX** (619) 710-8540
Crydom Corp, 2320 Paseo de las Americas, Ste. 201, San Diego, CA 92154
Email: sales@crydom.com • **WEB SITE:** http://www.crydom.com
UK: +44 (0)1202 365070 • **FAX:** +44 (0)1202 365090 Crydom International Ltd., 7 Cobham Road, Ferndown Industrial Estate, Ferndown, Dorset BH21 7PE, Email: intsales@crydom.com.
GERMANY: +49 (0)180 3000 506

ISO 9001 CERTIFIED

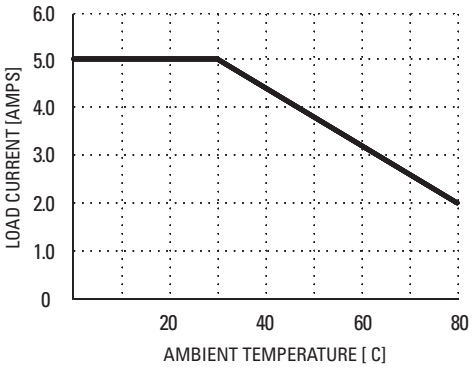
GENERAL SPECIFICATIONS

Dielectric Strength 50/60Hz Input/Output/Base	2500 Vrms
Insulation Resistance (Min.) @ 500 Vdc	10^9 Ohm
Max. Capacitance Input/Output	10 pF
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-30 to 80°C

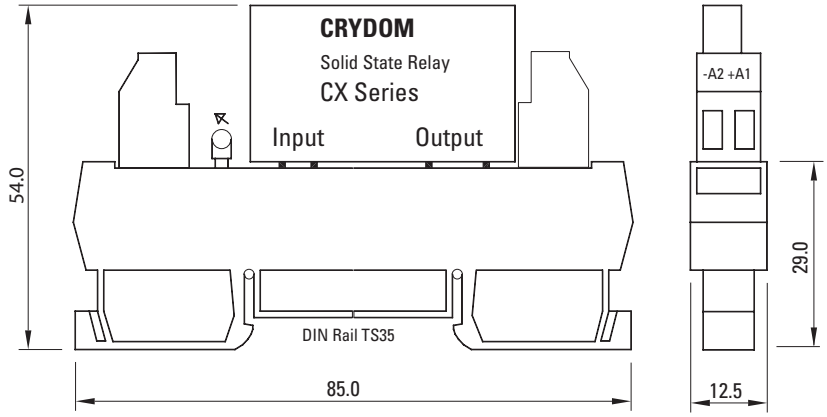
MECHANICAL SPECIFICATION

Weight: (typical)	30 grms
Encapsulation (SSR):	Thermally Conductive Epoxy

CURRENT DERATING CURVE



Max. Load Current vs. Temp.



- All dimensions are in millimeters (not to scale)
- Colour of carrier and termination housing - orange
- Input status LED is on DC control module only

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AVAILABLE OPTIONS

R Random Turn-On Switching
Example: MS11-CX240D5R, MS11-CX240A5R

APPROVALS (SSR ONLY)

UL E 116949
CSA LR 81689
VDE 70938
UG (240V, DC Control Only)

CE

For recommended applications and more information contact:
USA: Sales Support (877) 502-5500 **•Tech Support** (877) 702-7700 • **FAX** (619) 710-8540
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ISO 9001 CERTIFIED

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH.

- Disconnect all power before installing or working with this equipment.
- Verify all connections and replace all covers before turning on power.

Failure to follow these instructions will result in death or serious injury.

RIESGO DE DESCARGA ELECTRICA O EXPLOSION.

- Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo.
- Verificar todas las conexiones y colocar todas las tapas antes de energizer el equipo.

El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.

RISQUE DE DESCHARGE ELECTRIQUE OU EXPLOSION

- Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil
- Vérifier tous connections, et remettre tous couverts en olace avant de mettre sous

De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.

GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION.

- Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen
- Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen.

Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.

RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSI ONE.

- Spenga tutta l'alimentazion e che fornisce questa apparecchiatu ra prima del lavorare a questa apparecchiatu ra
- Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazi one

L'omissione di seguire queste istruz ioni provocherà la morte o di lesioni serie

RISCO DE DESCARGA ELÉTTRICA OU EXPLOSÃO

- Desconectar o equipamento de toda á energia antes de instalar ou trabalhar com este equipamen to
- Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento

O não cumprimento destas instruções pode levar á morte ou lesões sérias.

⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow time for product to cool before touching.
- Follow proper mounting instructions including torque values.
- Do not allow liquids or foreign objects to enter this product.

Failure to follow this instruction can result in serious injury, or equipment damage.

RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER

- Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher.
- Respecter les consignes de montage, et notamment les couples de serrage.
- Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit.

Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.

GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG

- Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren.
- Beachten Sie die Montageanweisungen,
- Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein.

Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.

RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD

- Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo.
- Respetar las instrucciones de montaje, y en particular los pares de apretado.
- No dejar que penetren líquidos o cuerpos extraños en el producto.

Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.

RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO

- I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo.
- Seguire le istruzioni di montaggio corrette.
- Non far entrare liquidi o oggetti estranei in questo apparecchio.

La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.

RISCO DE DANO MATERIAL E DE AQUECIMENTO

- Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar.
- Siga devidamente as instruções de montagem.
- Não permita a entrada de líquidos e de objectos estranhos no produto.

A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX – ENVIRONMENTAL INFORMATION:

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

附件 - 环保信息:

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 SJ/T11364 - 2006,
电子信息产品污染控制标识要求

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O



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