

- 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 ① ③				
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 25°C 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.

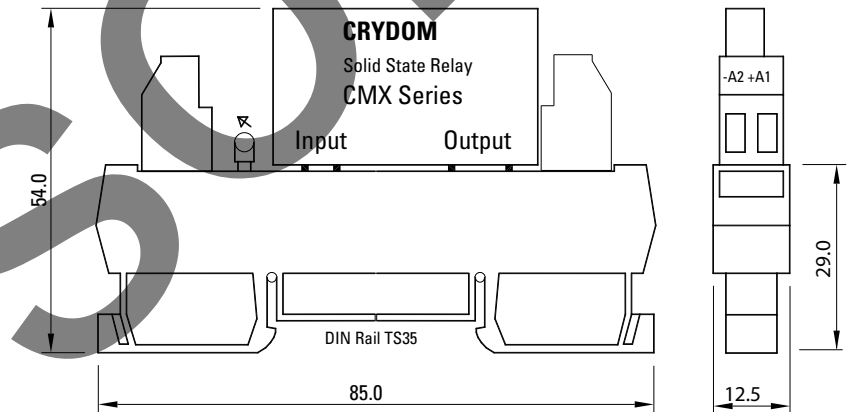
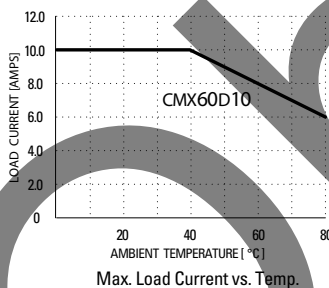
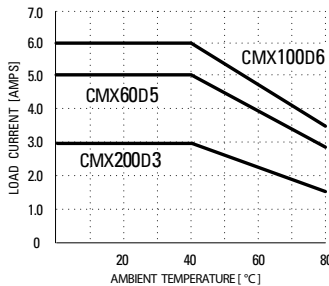
GENERAL SPECIFICATIONS

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



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)

- 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) (24Vac)	MS11-CX2405A MS11-CXE240A5
	DC CONTROL (5Vdc) (24Vdc)	MS11-CX240D5 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 ² t for Fusing, (8.3 msec.) [A ² sec]		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

MODEL NUMBERS	DC CONTROL		AC CONTROL ④	
	Nominal Voltage 5Vdc	24Vdc	120Vac	24Vac
	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

- ① All parameters at 25°C 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.

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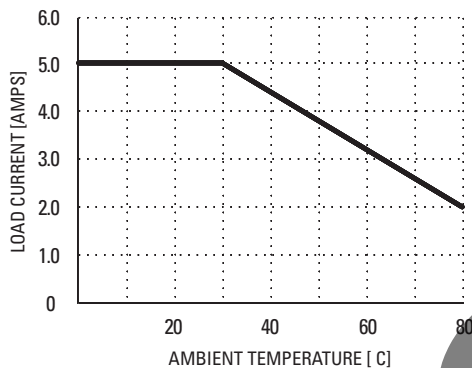
GENERAL SPECIFICATIONS

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

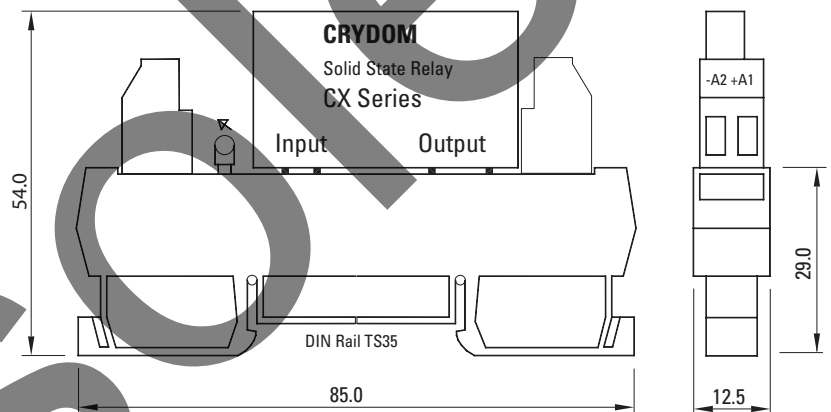
MECHANICAL SPECIFICATION

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)



! DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

<p>HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH.</p> <ul style="list-style-type: none"> • Disconnect all power before installing or working with this equipment. • Verify all connections and replace all covers before turning on power. <p>Failure to follow these instructions will result in death or serious injury.</p>	<p>RIESGO DE DESCARGA ELECTRICA O EXPLOSION.</p> <ul style="list-style-type: none"> • 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 energizar el equipo. <p>El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.</p>	<p>RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION</p> <ul style="list-style-type: none"> • Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil • Vérifier tous connections, et remettre tous couverts en place avant de mettre sous <p>De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.</p>	<p>GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION.</p> <ul style="list-style-type: none"> • 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. <p>Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.</p>	<p>RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE.</p> <ul style="list-style-type: none"> • Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura • Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione <p>L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie</p>	<p>RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO</p> <ul style="list-style-type: none"> • Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento • Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento <p>O não cumprimento destas instruções pode levar à morte ou lesões sérias.</p>
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! WARNING / AVERTISSEMENT / WARNUNG / ADVERTENCIA / AVVERTENZA / AVISO

<p>RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE</p> <ul style="list-style-type: none"> • 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. <p>Failure to follow this instruction can result in serious injury, or equipment damage.</p>	<p>RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER</p> <ul style="list-style-type: none"> • 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. <p>Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.</p>	<p>GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG</p> <ul style="list-style-type: none"> • 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. <p>Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.</p>
<p>RIESGO DE DAÑOS MATERIALES Y DE SOBRECIENTAMIENTO DE LA UNIDAD</p> <ul style="list-style-type: none"> • 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. <p>Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.</p>	<p>RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO</p> <ul style="list-style-type: none"> • 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. <p>La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.</p>	<p>RISCO DE DANO MATERIAL E DE AQUECIMENTO</p> <ul style="list-style-type: none"> • 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. <p>A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.</p>