



## LPCV Series

- Linear proportional controller
- Ratings from 15A to 110A @ 240 VAC
- 0-5 V DC, 0-10 V DC, or 4-20mA input
- For use with resistive loads only

### PRODUCT SELECTION

Description	15 A	25 A	40 A	75 A	110 A
0-5 VDC Control	5LPCV2415	5LPCV2425	5LPCV2440	5LPCV2475	5LPCV24110
0-10 VDC Control	10LPCV2415	10LPCV2425	10LPCV2440	10LPCV2475	10LPCV24110
4-20 mA Control	20LPCV2415	20LPCV2425	20LPCV2440	20LPCV2475	20LPCV24110

### OUTPUT SPECIFICATIONS (voltage) <sup>(1)</sup>

Description	240 VAC
Operating Voltage (60Hz) [Vrms]	20-300
Transient Overvoltage [Vpk]	600
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec]	200

### OUTPUT SPECIFICATIONS (current) <sup>(1)</sup>

Description	15 A	25 A	40 A	75 A	110 A
Maximum Load Current [Arms]	15	25	40	75	110
Minimum Load Current [Arms]	0.10	0.10	0.10	0.15	0.20
Maximum Surge Current (16.6ms) [Apk]	150	250	625	1000	1500
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.6	1.6	1.6	1.6	1.6
Thermal Resistance Junction to Case (Rjc) [°C/W]	1.48	1.02	0.63	0.31	0.28
Maximum I <sup>2</sup> t for Fusing (8.3 msec) [A <sup>2</sup> sec]	94	260	1620	4150	9340
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5	0.5

### INPUT SPECIFICATIONS <sup>(1)</sup>

Description	5LPCV	10LPCV	20LPCV
Control Voltage Range	0-5 VDC	0-10 VDC	4-20 mA
Control Range Limits (Min/Msx)	-0.5/10 VDC	-1.0/20 VDC	-0.5/25 mA
Turn-On Threshold	0.25 VDC	0.5 VDC	4.5 mA
Nominal Input Impedance	12.7K Ohm	25 K Ohm	460 Ohm
Sync Voltage (terminal 6 and 7)	16-24 VAC	16-24 VAC	16-24 VAC

### POWER SUPPLY SPECIFICATION <sup>(4)</sup>

Description	PS120	PS240
Input Voltage 50/60Hz	120 VAC	240 VAC
Output Voltage 50/60Hz (Sync Voltage)	20 VAC/100mA	20 VAC/100mA
Ambient Operating Temperature Range	-30 to 80°C	-30 to 80°C
Ambient Storage Temperature Range	-40 to 125°C	-40 to 125°C
Terminals	6-32 Screws, .25" Fastons	
Screw Torque Requirement	6-32 Screws -10 in lbs.	
Weight (typical)	8.6 oz. (245g)	

**GENERAL SPECIFICATIONS**

**Description**

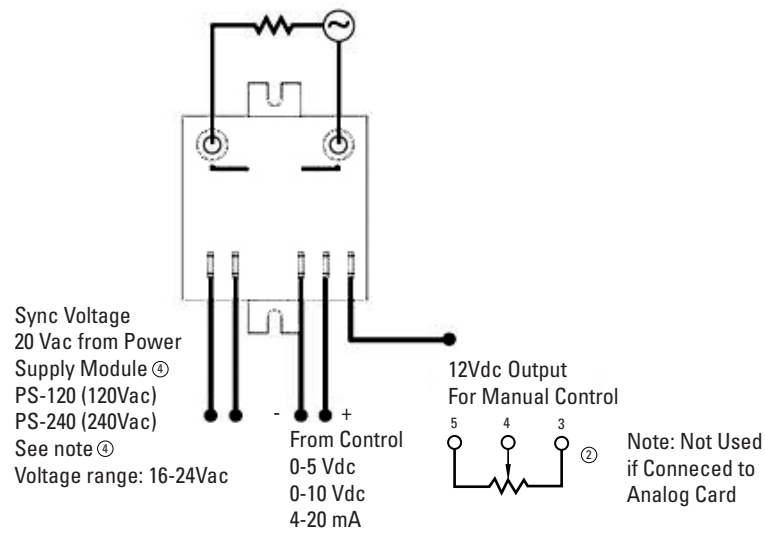
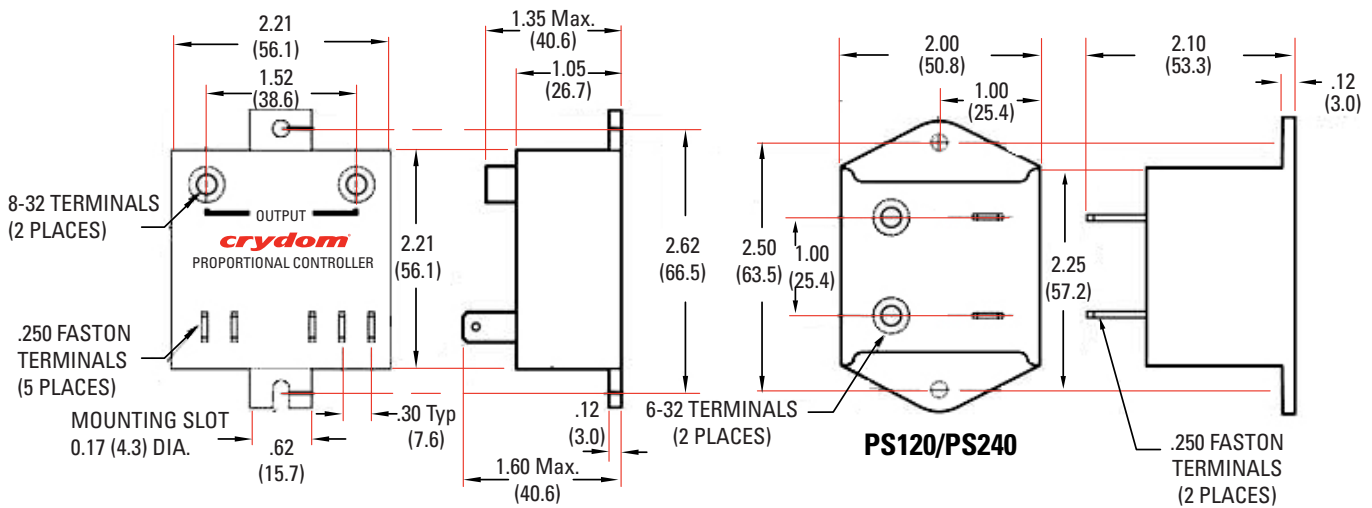
Dielectric Strength, signal to load	2500 Vrms
Dielectric Strength, signal to Base	2500 Vrms
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-40 to 125°C
Weight (typical)	6.0 oz. (175g)
Encapsulation	Themally Conductive Epoxy
Terminals	8-32 Screws, .25" Fastons
Screw Torque Requirement	8-32 and 10-32 Screws - 20in. lbs.

**GENERAL NOTES**

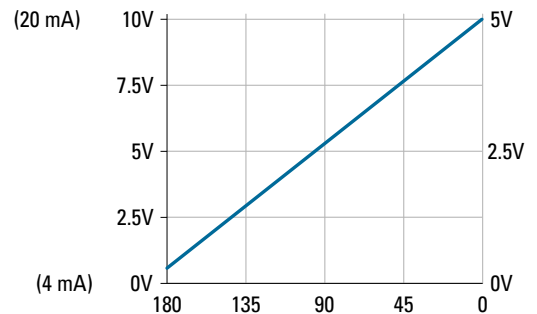
- 1) All parameters at 25°C unless otherwise specified.
- 2) Linear taper potentiometer 1-10K Ohm, ½ watt.
- 3) 50Hz models available.
- 4) 20 VAC must be in phase with load

**WIRING DIAGRAM**

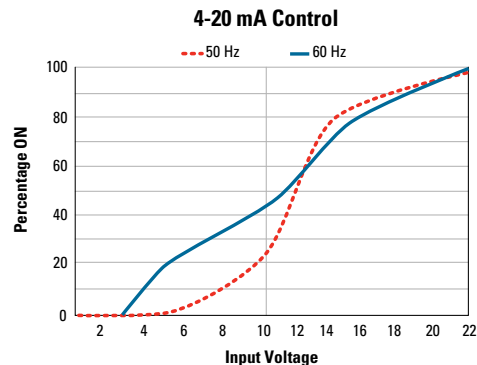
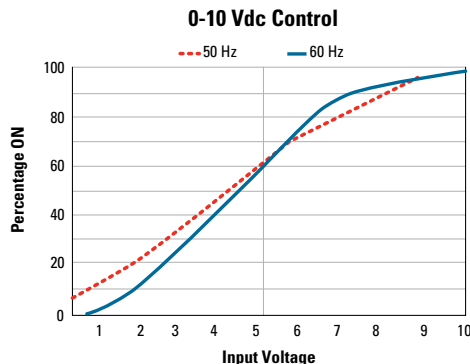
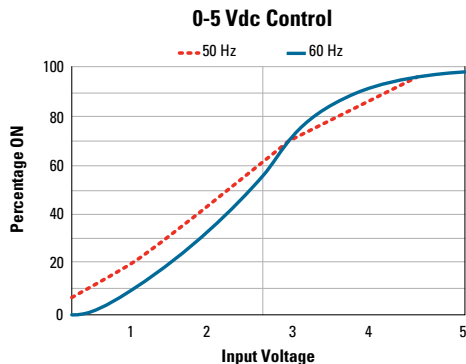
Tolerances: ±0.02 in / 0.5 mm  
 All dimensions are in: inches [millimeters]



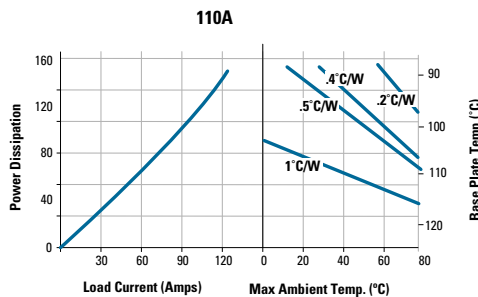
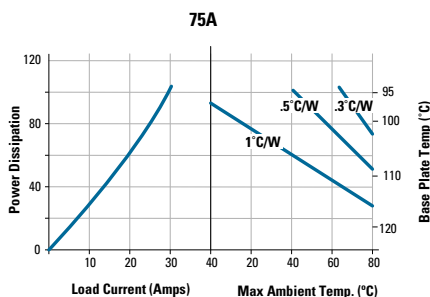
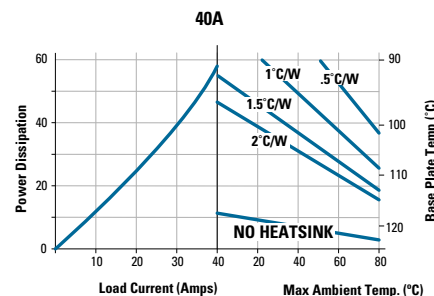
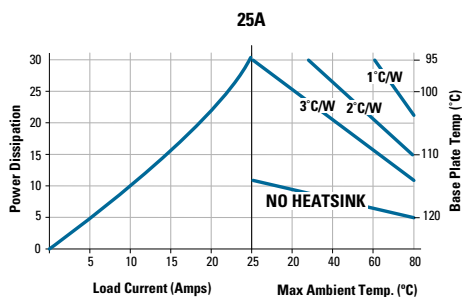
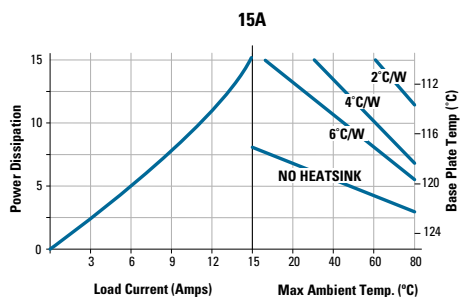
**Firing Angle vs. Input Signal**



**PERCENT VS INPUT VOLTAGE**



**THERMAL DERATE INFORMATION**



**TYPICAL APPLICATIONS**

- Infrared and quartz heaters
- Resistive heating elements
- Rectified DC motors
- Industrial temperature controllers
- Thermal forming equipment
- Conveyor speed control
- Printing applications

**AGENCY APPROVALS**

**Agency Approvals**

Designed in accordance with the requirements of IEC 62314

Rev. 110411

**⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / 危險**

<p><b>HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH.</b></p> <ul style="list-style-type: none"> <li>• Disconnect all power before installing or working with this equipment.</li> <li>• Verify all connections and replace all covers before turning on power.</li> </ul> <p><b>Failure to follow these instructions will result in death or serious injury.</b></p>	<p><b>RIESGO DE DESCARGA ELECTRICA O EXPLOSION.</b></p> <ul style="list-style-type: none"> <li>• Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo.</li> <li>• Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo.</li> </ul> <p><b>El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.</b></p>	<p><b>RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION</b></p> <ul style="list-style-type: none"> <li>• Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil</li> <li>• Vérifier tous connections, et remettre tous couverts en olace avant de mettre sous</li> </ul> <p><b>De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.</b></p>	<p><b>GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION.</b></p> <ul style="list-style-type: none"> <li>• Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen</li> <li>• Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen.</li> </ul> <p><b>Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.</b></p>	<p><b>RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE.</b></p> <ul style="list-style-type: none"> <li>• Spenga tutta l'alimentazione che fornisce questa apparecchiatura prima di lavorare a questa apparecchiatura</li> <li>• Verificare tutti i collegamenti e sostituire tutte le coperture prima dell'accensione</li> </ul> <p><b>L'omissione di queste istruzioni provocherà la morte o lesioni serie</b></p>	<p><b>存在电击、爆炸或电弧闪烁危险</b></p> <ul style="list-style-type: none"> <li>• 在操作此设备之前请先关闭电源。</li> </ul> <p><b>若不遵守这些说明,可能会导致严重的人身伤害甚至死亡。</b></p>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------

**⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / 警告**

<p><b>RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE</b></p> <ul style="list-style-type: none"> <li>• The product's side panels may be hot, allow the product to cool before touching.</li> <li>• Follow proper mounting instructions including torque values.</li> <li>• Do not allow liquids or foreign objects to enter this product.</li> </ul> <p><b>Failure to follow these instructions can result in serious injury, or equipment damage.</b></p>	<p><b>RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER</b></p> <ul style="list-style-type: none"> <li>• Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher.</li> <li>• Respecter les consignes de montage, et notamment les couples de serrage.</li> <li>• Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit.</li> </ul> <p><b>Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.</b></p>	<p><b>GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG</b></p> <ul style="list-style-type: none"> <li>• Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren.</li> <li>• Beachten Sie die Montageanweisungen, Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein.</li> </ul> <p><b>Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.</b></p>
<p><b>RIESGO DE DAÑOS MATERIALES Y DE SOBRECIENTAMIENTO DE LA UNIDAD</b></p> <ul style="list-style-type: none"> <li>• Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo.</li> <li>• Respetar las instrucciones de montaje, y en particular los pares de apretado.</li> <li>• No dejar que penetren líquidos o cuerpos extraños en el producto.</li> </ul> <p><b>Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.</b></p>	<p><b>RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO</b></p> <ul style="list-style-type: none"> <li>• I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo.</li> <li>• Seguire le istruzioni di montaggio corrette.</li> <li>• Non far entrare liquidi o oggetti estranei in questo apparecchio.</li> </ul> <p><b>La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.</b></p>	<p><b>材料损坏和高温外壳的危险性</b></p> <ul style="list-style-type: none"> <li>• 产品的一侧面板可能很热, 在其冷却前请不要触碰。</li> <li>• 遵照正确的安装说明, 包括扭矩值。</li> <li>• 请勿让液体及其他异物进入本产品。</li> </ul> <p><b>如不能正确执行这些操作说明, 极有可能造成严重人体伤害或者设备的损坏。</b></p>

**ANNEX - ENVIROMENTAL 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	○	○	○	○	○
Solder	X	○	○	○	○	○

**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	○	○	○	○	○
焊接点	X	○	○	○	○	○



---

Datasheets provided by Sensata Technologies, Inc., its subsidiaries and/or affiliates (“Sensata”) are solely intended to assist third parties (“Buyers”) who are developing systems that incorporate Sensata products (also referred to herein as “components”). Buyer understands and agrees that Buyer remains responsible for using its independent analysis, valuation, and judgment in designing Buyer’s systems and products. Sensata datasheets have been created using standard laboratory conditions and engineering practices. Sensata has not conducted any testing other than that specifically described in the published documentation for a particular datasheet. Sensata may make corrections, enhancements, improvements, and other changes to its datasheets or components without notice.

Buyers are authorized to use Sensata datasheets with the Sensata component(s) identified in each particular datasheet. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OTHERWISE TO ANY OTHER SENSATA INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY THIRD PARTY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT, IS GRANTED HEREIN. SENSATA DATASHEETS ARE PROVIDED “AS IS”. SENSATA MAKES NO WARRANTIES OR REPRESENTATIONS WITH REGARD TO THE DATASHEETS OR USE OF THE DATASHEETS, EXPRESS, IMPLIED, OR STATUTORY, INCLUDING ACCURACY OR COMPLETENESS. SENSATA DISCLAIMS ANY WARRANTY OF TITLE AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUIET ENJOYMENT, QUIET POSSESSION, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO SENSATA DATASHEETS OR USE THEREOF.

All products are sold subject to Sensata’s terms and conditions of sale supplied at [www.sensata.com](http://www.sensata.com). SENSATA ASSUMES NO LIABILITY FOR APPLICATIONS ASSISTANCE OR THE DESIGN OF BUYERS’ PRODUCTS. BUYER ACKNOWLEDGES AND AGREES THAT IT IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL LEGAL, REGULATORY, AND SAFETY-ELATED REQUIREMENTS CONCERNING ITS PRODUCTS, AND ANY USE OF SENSATA COMPONENTS IN ITS APPLICATIONS, NOTWITHSTANDING ANY APPLICATIONS-RELATED INFORMATION OR SUPPORT THAT MAY BE PROVIDED BY SENSATA.

Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA

## CONTACT US

### Regional head offices:

#### United States of America

Sensata Technologies

Attleboro, MA

**Phone:** 508-236-3800

**E-mail:** [support@sensata.com](mailto:support@sensata.com)

#### Netherlands

Sensata Technologies Holland B.V.

Hengelo

**Phone:** +31 74 357 8000

**E-mail:** [support@sensata.com](mailto:support@sensata.com)

#### China

Sensata Technologies China Co., Ltd.

Shanghai

**Phone:** +8621 2306 1500

**E-mail:** [support@sensata.com](mailto:support@sensata.com)

Copyright © 2023 Sensata Technologies, Inc.