



Wiring Safety Guide

ASPYRE DT Power Controllers

Part Number: 2055-8256
Document Number: 10-37879 Rev. B
November, 2020

Safety Information

	CAUTION – Warning or Hazard that needs further explanation than the label on unit can provide. Consult User's Guide for further information.
	Electrical Shock Hazard - Symbol (a lightning bolt in a triangle) precedes an electric shock hazard CAUTION or WARNING safety statement.
	ESD Sensitive product, use proper grounding and handling techniques when installing or servicing product.
	Do not throw in trash, use proper recycling techniques or consult manufacturer for proper disposal.
	Unit is a Listed device per Underwriters Laboratories. It has been investigated to ANSI/UL® 508 standards for Industrial Control Switches and equivalent to CSA C22.2 #14. For more detail search for File E73741 on www.ul.com.
	Unit is compliant with European Union directives. See Declaration of Conformity for further details on Directives and Standards used for Compliance.

Safety Notes

WARNING! To avoid damage to property and equipment, injury and loss of life, adhere to applicable electrical codes and standard wiring practices when installing and operating this product. Failure to do so could result in damage, injury and death.

WARNING! All service including inspection, installation, wiring, maintenance, troubleshooting, fuse or other user-serviceable component replacement must be performed only by properly qualified personnel. Service personnel must read this manual before proceeding with work. While service is being performed, other, unqualified personnel should not work on the unit or be allowed in the immediate vicinity.

WARNING! When in use, the power controller is connected to dangerous voltages. Do not remove the protective covers without first disconnecting and preventing power from being restored while servicing the unit.

WARNING! Electric Shock Hazard: when the power controller has been energized, after shutting off the power, wait at least one minute for internal capacitors to discharge before commencing work that brings you in to contact with power connections or internal components.

WARNING: The installation must be protected by electromagnetic circuit breakers or by fuses. The semiconductor fuses located inside the power controller are classified for UL® as supplementary protection for semiconductor devices. They are not approved for branch circuit protection.

NOTE! The nominal current is specified for ambient temperatures at or below 40° C. Ensure the application design allows for adequate cooling of each power controller. The power controller must be mounted vertically. The cooling design must prevent air heated by one power controller from causing power controllers mounted above to exceed the ambient operating temperature limit. When power controllers are mounted side by side allow a minimum spacing of 15mm between them.

NOTE! Use only copper cables and wires rated for use at 75°C or greater.

AVERTISSEMENT! Pour éviter d'endommager la propriété et l'équipement, les blessures et la perte de vie, respecter les codes électriques en vigueur et les pratiques de câblage standard au moment de l'installation et de l'utilisation de ce produit. Dans le cas contraire, cela peut entraîner la mort, des blessures graves ou des dommages.

AVERTISSEMENT! Tous les services, y compris l'inspection, l'installation, le câblage, l'entretien, le dépannage, le remplacement de fusibles ou d'autres composants pouvant être réparés par l'utilisateur, doivent être effectués uniquement par un personnel dûment qualifié. Le personnel de service doit lire ce manuel avant d'effectuer tout travail. Pendant que l'entretien est exécuté, tout personnel non qualifié ne doit effectuer de travail sur l'appareil ni se trouver à proximité.

AVERTISSEMENT! Au moment de l'utilisation, le régulateur de puissance est connecté à des tensions dangereuses. Ne retirer aucun couvercle de protection sans d'abord débrancher l'appareil et ainsi empêcher l'alimentation d'être rétablie pendant l'entretien.

AVERTISSEMENT! Risque de décharges électriques : lorsque le régulateur de puissance est mis sous tension, après avoir été éteint, attendre au moins une minute pour que les condensateurs internes se déchargent avant de commencer tout travail incluant le contact avec les connexions électriques ou les composants internes.

AVERTISSEMENT! L'installation doit être protégée par des disjoncteurs électromagnétiques ou des fusibles. Les fusibles pour semi-conducteurs situés à l'intérieur du régulateur de puissance sont classés UL® comme protection supplémentaire pour les dispositifs pour semi-conducteurs. Ils ne sont pas approuvés pour la protection des circuits de dérivation.

REMARQUE : Le courant nominal est précisé pour des températures ambiantes égales ou inférieures à 40°C. S'assurer que la conception de l'application permette le refroidissement adéquat de chaque régulateur de puissance. Le régulateur de puissance doit être monté verticalement. La conception de refroidissement doit empêcher l'air chauffé par le régulateur de puissance de dépasser la limite de température de fonctionnement ambiante de la part des régulateurs de puissance montés au-dessus. Lorsque les régulateurs de puissance sont montés côte à côte, il faut conserver un espacement minimal de 15 mm entre les deux.

REMARQUE : N'utiliser que des câbles et des fils en cuivre pour l'utilisation à 75°C ou plus.

Identifying the Product

The product identification label includes not only the part number but also the voltage and current ratings and auxiliary and fan voltage requirements.

Max. Load Current: 120A	Use Wire rated 75°C, Max Ambient 40°C
Max. Load Voltage: 600Vac ~ 50/60Hz	For use in Pollution Degree 2 Environment
Auxiliary Voltage : 540-660Vac ~ 50/60Hz 6VA	User Manual: 1917-1409
Fan Voltage : 120 VAC	
Second Port : Modbus TCP	
1 Phase 1 Leg Control	



Specifications

Environment

- Ambient operating temperature: 0 to 40°C. See user manual for de-rating over 40°C.
- Mount power controllers vertically
- 5 to 95% RH (relative humidity), non-condensing
- Up to 6560 feet (2000m) above sea level maximum
- Over 1000 meters of altitude reduce the nominal current by 2% for each 100 meters
- Storage temperature: -25 to 70°C max.
- Pollution degree: Installation Category III, Pollution degree 2
- Install away from direct sun light, conductive dust, corrosive gas, vibration, water and corrosive salts.

SCCR Rating

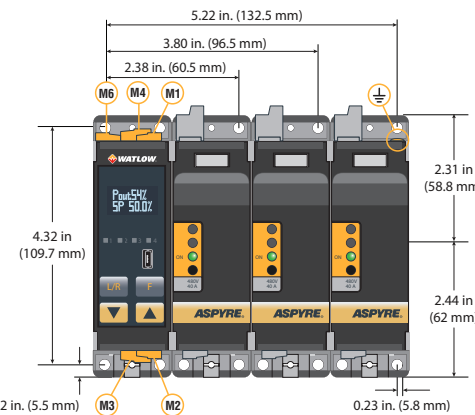
- SCCR rating 100,000A up to 600VAC

Terminal Identification and Mounting Holes

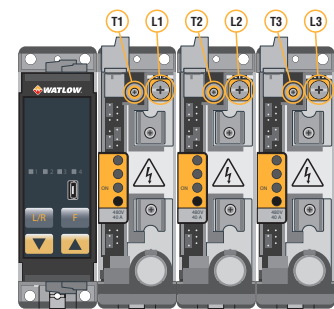
The following illustrations show the locations for line power, load, earth ground and signal connections. Line connections are: L1, L2, L3. Load connections are: T1, T2 and T3.

Connection Locations 35A to 40A Models

Covers Closed



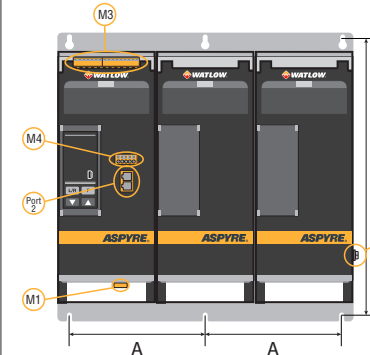
Covers Tipped Forward



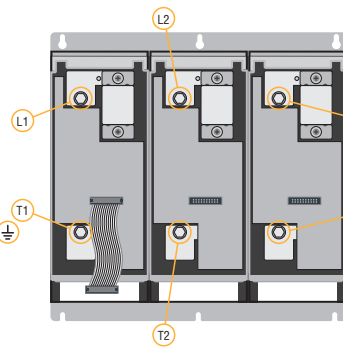
NOTE! Three-phase, three-leg model is shown. Single-phase and three-phase, two-leg models have fewer power and load connections.

Connection Locations 60A to 210A, 400V & 600V Models

Covers Closed



Covers Tipped Forward

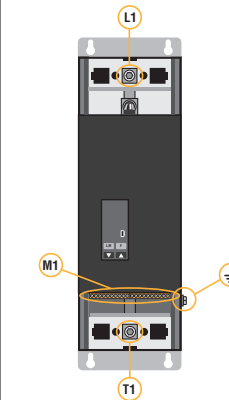


Mounting Slots for 60A to 210A, 400V & 600V Models

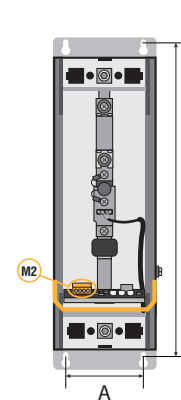
Model	A	B (no fans)	B (with fans)	Slot Width	Hole Size
DT1...	2.80 in. (71 mm)	10.06 in. 256 mm	10.24 in. 260 mm	0.2 in. 5 mm	0.35 in. 9 mm
DT2...	6.50 in. (165 mm)				
DT3...	5.10 in. (129.5 mm) 2 pl.				

Connection Locations Single-Phase, 60A to 210A, 690V Models

Top & Bottom Covers Off

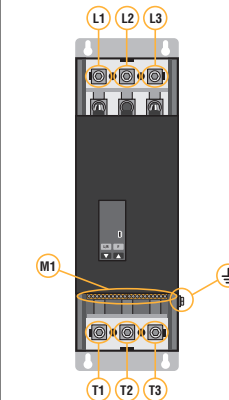


Center Cover Tipped Forward

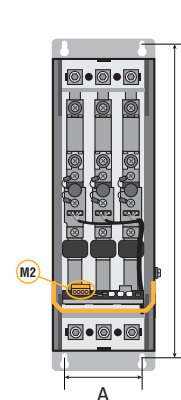


Connection Locations Three-Phase, 60A & 90A, 690V Models

Top & Bottom Covers Off

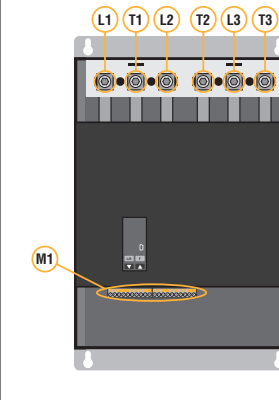


Center Cover Tipped Forward

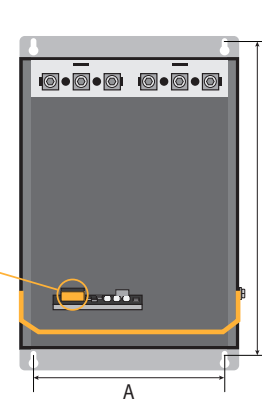


Connection Locations Three-Phase, 120A to 210A, 690V Models

Top & Bottom Covers Off

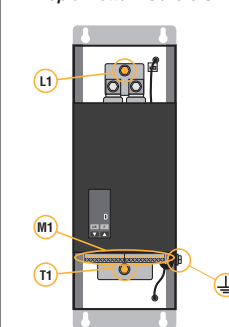


Top & Bottom Covers Off

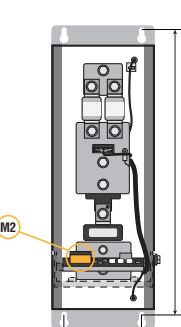


Connection Locations Single-Phase, 300A to 700A Models

Top & Bottom Covers Off

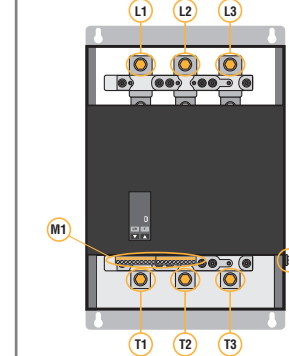


Center Cover Tipped Forward

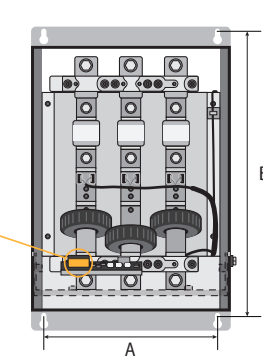


Connection Locations Three-Phase, 300A to 700A Models

Top & Bottom Covers Off



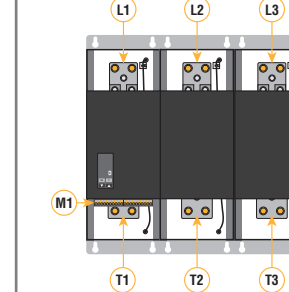
Center Cover Tipped Forward



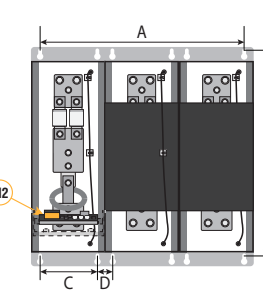
NOTE! Three-leg, 400A model shown. The width of the bus bar, number of bolts, number of fuses and their placement vary by model. In all cases the M2 connector is as indicated.

Connection Locations 800A Models

Top & Bottom Covers Off



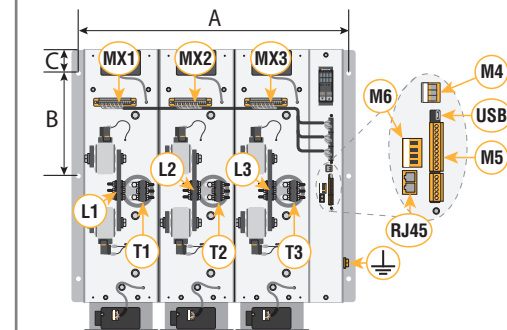
Center Cover Tipped Forward



NOTE! Three-leg model shown. The number of modules varies by model. In all cases the M1 and M2 connectors are in the left-most module and earth ground is on the right.

Connection Locations 1100A to 2100A Models

Covers Off



NOTE! Three-leg model shown. The number of modules varies by model. In all cases the M1 and M2 connectors are in the left-most module and earth ground is on the right.

Mounting Slots for 60A to 210A, 690V & 300A to 2100A Models

Model	Current (A)	A	B	C	D	Slot Width	Hole Size
DT....	60 to 90	3.82 in. (97 mm)	16.14 in. 410 mm			0.28 in. 7 mm	0.47 in. 12 mm
DT1...	120 to 210						
DT2...	120 to 210						
DT3...	120 to 210	8.74 in. (222 mm)					
DT1...	300 to 700	3.82 in. (97 mm)	19.29 in. 490 mm				
DT2...	300 to 700	8.74 in. (222 mm)					
DT3...	300 to 500						
DT1...	800	3.82 in. (97 mm)	20.87 in. 530 mm	3.82 in. 97 mm	1.65 in. 42 mm		
DT2...	800	9.25 in. (235 mm)					
DT3...	800	14.61 in. (371 mm)					
DT1...	1100	11.97 in. (304 mm)	8.56 in. 218 mm	1.97 in. 50 mm		N/A (no slot)	0.33 in. 8.5 mm
DT2...	1100	19.61 in. (498 mm)					
DT3...	1100	27.24 in. (692 mm)					
DT1...	1400 to 2100	11.97 in. (304 mm)	10.53 in. 268 mm				
DT2...	1400 to 2100	19.61 in. (498 mm)					
DT3...	1400 to 2100	27.24 in. (692 mm)					

Wiring Instructions

Select cables or bus bar for line power, load connections and earth grounds per National Electric Code or local applicable electric code.

Load wiring for 35A and 40A models requires 90°C rated wire otherwise use 75°C wire.

Connect RS-485 communication common to any analog common terminal.

If using the 10VDC power supply to power dry contact switches connected to digital inputs, connect the digital input common to the analog common.

