

# DySC Dynamic Voltage Sag Corrector Specifications

Bulletin Number 1608

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## Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
Industrial Automation Wiring and Grounding Guidelines, publication <a href="#">1770-4.1</a>	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, <a href="http://www.ab.com">http://www.ab.com</a>	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at <http://www.rockwellautomation.com/literature/>. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.



Specifications

Bulletin 1608 MiniDySC and ProDySC Specifications

	1608N MiniDySC		1608P ProDySC			
	2..6 A	12...50 A	25/50 A	100/110 A	200 A	200 A HC
<b>Electrical Input/Output (Normal Mode—Static Switch)</b>						
Connection Configuration	Series-connected with load. Under normal line condition, the static switch passes utility voltage directly to the load					
Standard Input Voltage DySC	1Phase: 120, 208, 220, 230, 240V		3 Phase:: 208, 380, 400, 415, 480V★			480V
Voltage Range	±10%					
Current Overload (Trip above these levels)	110% continuous, 150% @ 10 sec., 200% @ 0.5 sec., 300% @ 10 cycles, 400% @ 3 cycles, 1000% Instantaneous	0...100% of rated rms current, continuous	150% @ 30Sec., 400% @ 5 Sec., 600% @ 0.5 Sec.	200% @ 30Sec., 400% @ 5 Sec., 600% @ 0.5 Sec.	150% @ 30Sec., 400% @ 5 Sec., 600% @ 0.5 Sec.	
Current Overload (Static Switch) for 12A, 50A models	—	200% @ 30 Sec., 400% @ 5 Sec., 600% @ 0.5 Sec.	—			
Current Overload (Static Switch) for 25A models	—	200% @ 30 Sec., 280% @ 5 Sec., 450% @ 0.5 Sec.	—			
Frequency	50/60 Hz Auto Sensing					
Frequency Range (tracking)	45 to 65 Hz				48-62 Hz	
Surge Protection Device (SPD)	Built-in 3-Layers consisting of MOVs & Capacitors					
Efficiency	250 VA >94%, 500 VA >97%, 750 VA >96%	> 98%	> 99% @ 480V			
Phase (wiring)	1 phase (L-L & L-N)		3 Phase (3-Wire and 4-Wire)			
Detection Voltage	88.5% of rated voltage					
Response Time (typical)	0.7 ms detection, 1.2 ms inverter reaction (<2ms)					
<b>Electrical Output (Sag Correction Mode—Inverter)</b>						
Output Voltage	Matches pre-sag input voltage		Pre-sag rms voltage			
Voltage Regulation	+/- 5% typical, +5% / -13% of nominal max		+5%-13% of nominal			
Output Current	Rated RMS (12, 25, or 50 A)		Rated RMS (25A or 50A). Not rated for DC loads; max. allowable 2% DC loading	100 A: RMS - Not rated for DC loads; max. allowable 2% DC loading, 110 A: RMS - Not rated for DC loads; max. allowable 2% DC loading	Rated RMS Not rated for DC loads; max. allowable 2% DC loading	
Crest Factor (at rated load)	1.45					
Load	Power factor range -0.5 ...+0.9, DC component <2% of rated current					
Voltage Waveform (typical)	Sine wave					
<b>Voltage Sag Correction Times</b>						
<b>Single Event</b>						
87% to 50% voltage remaining	5 seconds SR & ER		—		5 seconds	
Sags to zero voltage remaining	50ms or 200ms (standard or extended run time DySCs). Based on nameplate ratings with a power factor of 0.7		—		50ms. Based on nameplate ratings with a power factor of 0.7	78ms. Based on nameplate ratings with a power factor of 0.7
3 phase 87% to 50% Voltage Remaining	—		5 seconds		—	
All three phases to zero voltage remaining	—		50ms or 200ms (SR or ER). Based on load at nameplate ratings with a power factor of 0.7	2-3 or 8-12 cycles (standard or extended run time DySCs).	3 cycles, based on nameplate ratings with a power factor of 0.7,	78 ms based on nameplate rated load with a power factor of 0.7
<b>Multiple Events</b>						
Max Sag Correction Time	5 seconds cumulative usage					
Sequential Sag Recovery	0 seconds (assuming cumulative run-time available)					
Full Recovery Time	Max 5 minutes					

Bulletin 1608 MiniDySC and ProDySC Specifications, continued

	1608N MiniDySC		1608P ProDySC			
	2..6 A	12...50 A	25/50 A	100/110 A	200 A	200 A HC
<b>Mechanical</b>						
Enclosure Ratings	NEMA 1 (IP20)		NEMA 1 (IP20)			
Cooling	Forced air (500VA, 750VA) or natural convection (250VA)	Forced Air	Filtered forced air			
Access	Lower front for connections	Lower front for servicing and connections	Front for servicing and connections			
Accessibility (Wiring)	Pluggable compression terminal block	DIN compression terminal block	Screw terminal blocks		Mechanical lugs	
<b>Communications / User Interface</b>						
Indicators	3 LEDs: Overload Trip, Normal, Alarm	Normal and Alarm LEDs	LCD Screen			
Connectivity	Form C contacts rated 120Vac@0.5A or 30Vdc@1A	OUTPUT OK and ALARM contacts, Form A, 24VDC at 1A	SAG EVENT, OUTPUT OK, and ALARM contacts, Form A, 24 VDC at 1 A RS-232 serial port			
<b>Environmental</b>						
Ambient Temperature	0 ...+50°C		0 ...+40°C			
Storage Temperature	-40°C ...+75°C					
Relative Humidity	0 ...95% non-condensing					
Altitude	Rated current available to 1000m (3300ft). De-rate output current 10% per 1000m, from 1000m to 3000m (9900ft).					
Audible Noise	<50dBA at 1 meter		< 55 dBA at 1 meter		<60 dBA at 1 meter	

## Bulletin 1608 MegaDySC Specifications

1608M MegaDySC	
400 A, 800...2400 A	
<b>Electrical Input/Output (Normal Mode—Static Switch)</b>	
Connection Configuration	Series-connected with load. Under normal line condition, the static switch passes utility voltage directly to the load
Standard Input Voltage DySC	3 Phase:: 208, 380, 400, 415, 480V
Voltage Range	±10%
Static Bypass Current	100% rated rms continuous, 150%-400% @ 5 sec., 400%-600% @ 0.5 sec., 600% @ 0.1s
Frequency	50/60 Hz Auto Sensing
Frequency Range (tracking)	45...65 Hz
Surge Protection Device (SPD)	Output SPD, 80kA/mode
Efficiency	> 99%
Phase (wiring)	3 phases+Ground (3-wire models) or 3 phases+Neutral+Ground (4-wire models)
Detection Voltage	88.5% of rated voltage
Response Time (typical)	0.7 ms detection, 1.2 ms inverter reaction (2ms)
<b>Electrical Output (Sag Correction Mode—Inverter)</b>	
Output Voltage	Pre-sag rms voltage
Voltage Regulation	+5% / -13% of nominal
Output Current	Rated RMS Not rated for DC loads; max. allowable 2% DC loading
Crest Factor (at rated load)	1.45
Load	Power factor range -0.5 ...+0.9, DC component <2% of rated current
Voltage Waveform (typical)	Sine Wave
<b>Voltage Sag Correction Times</b>	
<b>Single Event</b>	
87% to 50% voltage remaining	5 seconds SR & ER
Sags to zero voltage remaining	50 ms or 200 ms (standard or extended run time DySCs). Based on nameplate ratings with a power factor of 0.7
3 phase 87% to 50% Voltage Remaining	5 seconds
All three phases to zero voltage remaining	50 ms or 200 ms (standard or extended run time DySCs). Based on nameplate ratings with a power factor of 0.7
<b>Multiple Events</b>	
Max Sag Correction Time	5 seconds cumulative usage
Sequential Sag Recovery	0 seconds (assuming cumulative run-time available)
Full Recovery Time	Max 5 minutes
<b>Mechanical</b>	
Enclosure Ratings	NEMA 1 (IP20)
Cooling	Filtered Forced Air
Cable Entry	Top or Bottom of Switchboard
Access	Front for servicing. Left or Rear access for installation
Accessibility (Wiring)	Mechanical Lugs
<b>Communications / User Interface</b>	
Indicators	LCD Screen
Connectivity	Dry Contact, RS-232 serial port
<b>Environmental</b>	
Ambient Temperature	0 ...+40°C
Storage Temperature	-40°C... 75°C
Relative Humidity	0 to 95% non-condensing
Altitude	Rated current available to 1000m (3300ft). De-rate output current 10% per 1000m, from 1000m to 3000m (9900ft).
Audible Noise	<70 dBA at 1 meter

<b>1608M MegaDySC</b>	
<b>400 A, 800...2400 A</b>	
<b>Electrical Input/Output (Normal Mode—Static Switch)</b>	
Connection Configuration	Series-connected with load. Under normal line condition, the static switch passes utility voltage directly to the load
Standard Input Voltage DySC	3 Phase:: 208, 380, 400, 415, 480V
Voltage Range	±10%
Static Bypass Current	100% rated rms continuous, 150%-400% @ 5 sec., 400%-600% @ 0.5 sec., 600% @ 0.1s
Frequency	50/60 Hz Auto Sensing
Frequency Range (tracking)	45...65 Hz
Surge Protection Device (SPD)	Output SPD, 80kA/mode
Efficiency	> 99%
Phase (wiring)	3 phases+Ground (3-wire models) or 3 phases+Neutral+Ground (4-wire models)
Detection Voltage	88.5% of rated voltage
Response Time (typical)	0.7 ms detection, 1.2 ms inverter reaction (2ms)
<b>Electrical Output (Sag Correction Mode—Inverter)</b>	
Output Voltage	Pre-sag rms voltage
Voltage Regulation	+5% / -13% of nominal
Output Current	Rated RMS Not rated for DC loads; max. allowable 2% DC loading
Crest Factor (at rated load)	1.45
Load	Power factor range -0.5 ...+0.9, DC component <2% of rated current
Voltage Waveform (typical)	Sine Wave
<b>Voltage Sag Correction Times</b>	
<b>Single Event</b>	
87% to 50% voltage remaining	5 seconds SR & ER
Sags to zero voltage remaining	50 ms or 200 ms (standard or extended run time DySCs). Based on nameplate ratings with a power factor of 0.7
3 phase 87% to 50% Voltage Remaining	5 seconds
All three phases to zero voltage remaining	50 ms or 200 ms (standard or extended run time DySCs). Based on nameplate ratings with a power factor of 0.7
<b>Multiple Events</b>	
Max Sag Correction Time	5 seconds cumulative usage
Sequential Sag Recovery	0 seconds (assuming cumulative run-time available)
Full Recovery Time	Max 5 minutes
<b>Mechanical</b>	
Enclosure Ratings	NEMA 1 (IP20)
Cooling	Filtered Forced Air
Cable Entry	Top or Bottom of Switchboard
Access	Front for servicing. Left or Rear access for installation
Accessibility (Wiring)	Mechanical Lugs
<b>Communications / User Interface</b>	
Indicators	LCD Screen
Connectivity	Dry Contact, RS-232 serial port
<b>Environmental</b>	
Ambient Temperature	0 ...+40°C
Storage Temperature	-40°C... 75°C
Relative Humidity	0 to 95% non-condensing
Altitude	Rated current available to 1000m (3300ft). De-rate output current 10% per 1000m, from 1000m to 3000m (9900ft).
Audible Noise	<70 dBA at 1 meter

Bulletin 1608N MiniDySC

Dimensions		
Rating (VA)	H x W x D in. [mm]	Shipping Weight lb. [kg]
Standard Run-time (SR)		
Extended Run-time (ER)		
250	8.3 x 5.8 x 6.3 [210.8 x 147.3 x 160]	8.0 [3.63]

  

Dimensions		
Rating (A)	H x W x D in. [mm]	Shipping Weight lb. [kg]
Standard Run-time (SR)		
Extended Run-time (ER)		
25	21 x 19 x 4 [533.4 x 482.6 x 101.6]	32.5 [14.7]

Bulletin 1608P ProDySC

Dimensions		
Rating (A)	H x W x D in. [mm]	Shipping Weight lb. [kg]
Standard Run-time (SR)		
Extended Run-time (ER)		
25	32 x 26 x 14 [813 x 660 x 356]	307 [140]

  

Dimensions		
Wiring Type	H x W x D in. [mm]	Shipping Weight lb. [kg]
Standard Run-time (SR)		
Extended Run-time (ER)		
3-Wire	77.1 x 29 x 52.2 [1957 x 737 x 1327]	937 [426]

200 Amp

Dimensions		
Wiring Type	H x W x D in. [mm]	Shipping Weight lb. [kg]
3-Wire	78.6 x 42.4 x 34.6 [1983 x 1076 x 878]	1,470 [667]
4-Wire		1,408 [639]

Bulletin 1608M MegaDySC

MegaDySC

Rated Current [A]	Run Time	Wiring Type	H x W x D in. [mm]	Shipping Weight lb. [kg]
400	Standard	3-Wire	94 X 69.3 X 33.1 [2388 X 1759 X 840]	2,867 lb [1300kg]
		4-Wire		2,831 lb [1284 kg]
	Extended	3-Wire	94 X 87.3 X 33.1 [2388 X 2216 X 840]	3,731 lb [1692 kg]
		4-Wire		3,695 lb [1676 kg]
800	Standard	3-Wire	103 X 128.5 X 33.1 [2614 X 3264 X 840]	7,800 lb [3538kg]
		4-Wire		
	Extended	3-Wire	103 X 164.5 X 33.1 [2614 X 4178 X 840]	8,632 lb [3915 kg]
		4-Wire		
1200	Standard	3-Wire	103 X 165.5 X 33.1 [2614 X 4204 X 840]	10,350 lb [1300kg]
		4-Wire		
	Extended	3-Wire	103 X 219.5 X 33.1 [2614 X 5575 X 840]	11,598 lb [1692 kg]
		4-Wire		
1600	Standard	3-Wire	103 X 202.5 X 33.1 [2614 X 5144 X 840]	13,300 lb [6033kg]
		4-Wire		
	Extended	3-Wire	103 X 274.5 X 33.1 [2614 X 6972 X 840]	14,964 lb [6788 kg]
		4-Wire		
2000	Standard	3-Wire	103 X 239.5 X 33.1 [2614 X 6083 X 840]	16,250 lb [7371kg]
		4-Wire		
	Extended	3-Wire	103 X 329.6 X 33.1 [2614 X 8372 X 840]	18,330 lb [8314 kg]
		4-Wire		
2400	Standard	3-Wire	103 X 276.5 X 33.1 [2614 X 7023 X 840]	18,800 lb [8528kg]
		4-Wire		
	Extended	3-Wire	103 X 384.6 X 33.1 [2614 X 9769 X 840]	21,296 lb [9660 kg]
		4-Wire		

## Important User Information

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

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