

Reduced Voltage Starters Solid State

ASTAT XT Soft Starter

Digital Soft Starters for 3ph Standard Induction Motors

Description

GE's new solid state ASTAT XT Soft Starter features microprocessor control digital technology. Setup and adjustment is performed through a six-button keypad and parameters or messages are displayed through a user-friendly LCD multi-language interface with two rows, sixteen alphanumeric characters each. The design includes isolated I/O and a high level of protection in circuits to minimize the disturbance effects while working in the harshest industrial environment.

ASTAT XT Soft Starter offers reliable performance and smooth acceleration for a variety of standard AC motors, up to 1400A and up to 690V, reducing mechanical shock to the driving system, resulting in extended component and motor life.

ASTAT XT Soft Starter offers many traditional features such as a motor overload function, adjustable ramps, current limit, kick start, as well as other high end features like inside-delta operation, torque control, pump control and a reliable motor and unit set of protections.



Features

- Ratings up to 1400 Amps and up to 690 VAC
- Friendly multi-language interface with two rows, sixteen characters each
- Built-in with three extra power terminals for external bypass
- In-line or inside-delta operation modes
- Torque control and pump control advanced features
- Motor protection according IEC 10,20 and NEMA 10, 20, 30, even if ASTAT XT Soft Starter is in bypass
- Built in RS485 port communications, and ModBus protocol as standard
- Profibus-DP and DeviceNet optional interfaces for communications

Standards

CE: Full Range
cUL, UL: For units up to 820A. "U" type



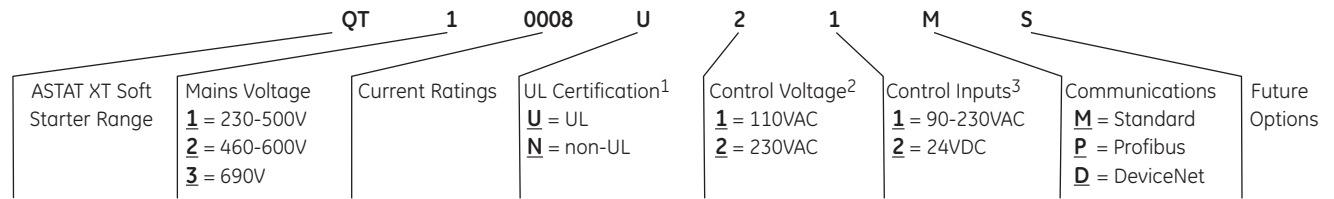
Reduced Voltage Starters

Solid State

ASTAT XT Soft Starter

Section 2

Product Number Configuration



Notes:

cUL Certification

¹ASTAT XT Soft Starter up to 600V, and up to 170A (Product Numbers up to QT10170_ or QT2) are always cUL certified. Option "N" not available

Units QT2, from QT20008_ up to QT20820_ are always cUL certified. Option "N" not available.

Units QT1, or QT2 from QTx0950_ up to QTx1400 are not UL certified. Option "U" not available.

Units QT3_, rated to 690V, are not UL certified. Option "U" not available

Control and Inputs Voltage

²ASTAT XT Soft Starter standard Control Voltage is option 2, Voltage 230VAC, +10%, -15%

³ASTAT XT Soft Starter standard configuration for Inputs is option 1, Voltage 90-230VAC, +10%, -15%

All ASTAT XT Soft Starter models rated 950A and up **must** be operated with a bypass contactor.



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Section 2

NEMA and IEC Ratings. Recommended Unit Type and Motor Ratings.

	Light Duty NEMA 10				Normal Duty NEMA 20				Heavy Duty NEMA 30				Product Number	List Price
	Current Rating	230V	460V	575V	Current Rating	230V	460V	575V	Current Rating	230V	460V	575V		
	A	HP	HP	HP	A	HP	HP	HP	A	HP	HP	HP		
Line Voltage 230VAC	8	2	---	---	8	2	---	---	8	2	---	---	QT10008U11MS	
	17	5	---	---	17	5	---	---	12	3	---	---	QT10017U11MS	
	34	10	---	---	31	10	---	---	31	10	---	---	QT10031U11MS	
	54	20	---	---	44	15	---	---	44	15	---	---	QT10044U11MS	
	65	20	---	---	58	20	---	---	55	20	---	---	QT10058U11MS	
	72	25	---	---	72	25	---	---	66	---	---	---	QT10072U11MS	
	104	40	---	---	85	30	---	---	80	30	---	---	QT10085U11MS	
	130	50	---	---	105	40	---	---	99	40	---	---	QT10105U11MS	
	156	60	---	---	145	50	---	---	130	50	---	---	QT10145U11MS	
	170	60	---	---	170	60	---	---	134	50	---	---	QT10170U11MS	
	262	100	---	---	210	75	---	---	203	75	---	---	QT10210U11MS	
	387	150	---	---	310	100	---	---	310	100	---	---	QT10310U11MS	
	414	150	---	---	390	150	---	---	361	150	---	---	QT10390U11MS	
	480	200	---	---	460	150	---	---	432	---	---	---	QT10460U11MS	
	610	250	---	---	580	200	---	---	552	200	---	---	QT10580U11MS	
	820	---	---	---	820	250	---	---	690	250	---	---	QT10820U11MS	
	Line Voltage 460 - 600VAC	8	---	5	5	8	---	5	5	8	---	5	5	QT20008U11MS
17		---	10	15	17	---	10	15	12	---	7.5	10	QT20017U11MS	
34		---	25	30	31	---	20	25	31	---	20	25	QT20031U11MS	
54		---	40	50	44	---	30	40	44	---	30	40	QT20044U11MS	
65		---	50	60	58	---	40	50	55	---	40	50	QT20058U11MS	
72		---	50	60	72	---	50	60	66	---	50	60	QT20072U11MS	
104		---	75	100	85	---	60	75	80	---	60	75	QT20085U11MS	
130		---	100	125	105	---	75	100	99	---	75	100	QT20105U11MS	
156		---	125	150	145	---	100	150	130	---	100	125	QT20145U11MS	
170		---	125	150	170	---	125	150	134	---	---	---	QT20170U11MS	
262		---	200	250	210	---	150	200	203	---	150	200	QT20210U11MS	
387		---	300	400	310	---	250	300	310	---	250	300	QT20310U11MS	
414		---	350	---	390	---	300	400	361	---	300	---	QT20390U11MS	
480		---	400	500	460	---	350	---	432	---	350	400	QT20460U11MS	
610		---	500	---	580	---	400	---	552	---	400	500	QT20580U11MS	
820		---	---	---	820	---	500	500	690	---	500	---	QT20820U11MS	

	Normal Duty IEC Class 10				Heavy Duty IEC Class 20				Product Number	List Price				
	A	690V KW			A	690V KW								
Line Voltage 690V	---	---	---	---	8	---	---	5.5	8	---	---	5.5	QT30008N11MS	
	---	---	---	---	17	---	---	15	12	---	---	7.5	QT30017N11MS	
	---	---	---	---	31	---	---	22	31	---	---	22	QT30031N11MS	
	---	---	---	---	44	---	---	37	44	---	---	37	QT30044N11MS	
	---	---	---	---	58	---	---	55	55	---	---	45	QT30058N11MS	
	---	---	---	---	72	---	---	55	66	---	---	55	QT30072N11MS	
	---	---	---	---	85	---	---	75	80	---	---	75	QT30085N11MS	
	---	---	---	---	105	---	---	90	99	---	---	90	QT30105N11MS	
	---	---	---	---	145	---	---	132	130	---	---	90	QT30145N11MS	
	---	---	---	---	170	---	---	160	134	---	---	132	QT30170N11MS	
	---	---	---	---	210	---	---	200	203	---	---	200	QT30210N11MS	
	---	---	---	---	310	---	---	250	310	---	---	250	QT30310N11MS	
	---	---	---	---	390	---	---	355	344	---	---	315	QT30390N11MS	
	---	---	---	---	460	---	---	400	432	---	---	400	QT30460N11MS	
	---	---	---	---	580	---	---	560	488	---	---	400	QT30580N11MS	
	---	---	---	---	650	---	---	630	552	---	---	560	QT30650N11MS	
	---	---	---	---	950	---	---	900	950	---	---	900	QT30950N11MS	
---	---	---	---	1100	---	---	1000	1076	---	---	1000	QT31100N11MS		
---	---	---	---	1400	---	---	---	1400	---	---	---	QT31400N11MS		

For 230V Control Voltage - Change the "1" in digit place 9 to "2". Example QT10031U11MS becomes QT10031U21MS. No Price Adder.
 For 24V DC Digital I/O - Change the "1" in digit 10 to "2". Example QT20072U11MS becomes QT20072U21MS. No Price Adder.
 For Profibus DP Communications - Change the "M" in digit 11 to "P". Example QT10390U11MS becomes QT10390U11PS. Price adder is \$850.00
 For DeviceNet Communications - Change the "M" in digit 11 to "D". Example QT20085U11MS becomes QT20085U11DS. Price adder is \$950.00

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Technical Specifications

Ratings

Main Voltage	3Ph AC supply - 230 to 500VAC +10%, -15% for QT1xxx units 460 to 600VAC +10%, -15% for QT2xxx units 690VAC +10%, -15% for QT3xxx units
Starter Current Rating	for 3Ph AC motors - From 8A up to 1400A.
Motor Current Rating	3 phase Induction motors - Motor rated current from 50% to 100% of starter current
Control Voltage	1ph AC supply - 230VAC, +10, -15%, 50/60Hz, or 110VAC, +10, -15%, 50/60Hz (optional)
Frequency Range	50/60Hz systems - Wide from 45Hz to 65Hz. Auto-tracking frequency range

Control Specifications

Control System	Digital control with microcontroller. Starting ramp, with progressive increase in voltage and current limitation
Operation Mode	In-Line (three wires) or Inside-Delta (six wires) of the motor
Run Operation	Soft Start and Soft Stop by multiple choices, including torque control both at Start or Stop phases
Operator Interface	By LCD display, keypad and indication LEDs Display: LCD with two rows, 16 characters each Type: Multi-language, Dip Switch selectable for English, Italian, Spanish and German Keys: Six keys, Mode, Reset, Set, Select and Up / Down LEDs: ON, Start, Run, Soft Stop, Stop, Save / Slow Speed, Dual Set / Reverse and Fault
Initial Voltage	10-50% Un. Up to 80% with expanded settings function
Starting Current	100-400% In. Can be extended up to 500%, by using extended settings
Acceleration Ramp time	1-30 sec. Can be extended up to 90sec, by using extended settings
Deceleration Ramp time	1-30 sec. Can be extended up to 90sec, by using extended settings
Current Limitation	100-400% of motor rated current. Can be extended up to 500% by using extended settings
Bypass	By external contactor while motor is full protected by ASTAT XT Soft Starter.
Monitoring	Motor Current, Line Voltage, motor thermistor resistance, Test & Maintenance and Statistics

Section 2

Environmental Conditions

Operating Temperature	-10 up to 50°C, derating from 40°C
Storage Temperature	-20°C up to 70°C
Maximum Altitude	Up to 1000 mts. Ask your dealer for installation at higher altitude
Humidity	95% at 50°C or 98% at 45°C
Protection Degree	IP20 for units up to 72A, IP00 for units from 85A up to 1400A
Pollution Degree	Class 3

Standards

Global Standards	CE for the full range. UL, cUL for specified units up to 820A
EMC Emissions	EN 55011: CISPR 11 Class A
Immunity	EN 55082-2: ESD 8KV air, IEC 801-2; Electric RF field 10 V/m, 20-1000Mhz, IEC 801-3 Fast transients 2KV, IEC 801-4
Safety	EN 600947-1: Related to safety requirements. UL508C Additional emergency safe stop functionality may be required for your application.



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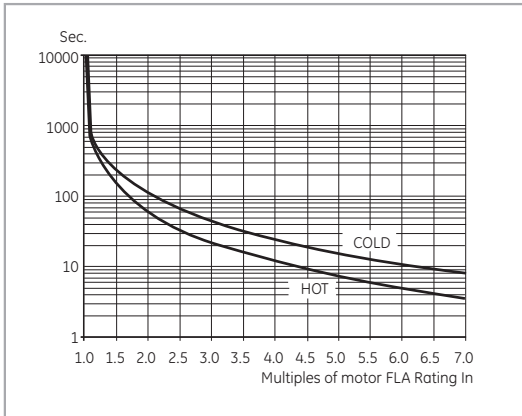
Technical Specifications

Section 2

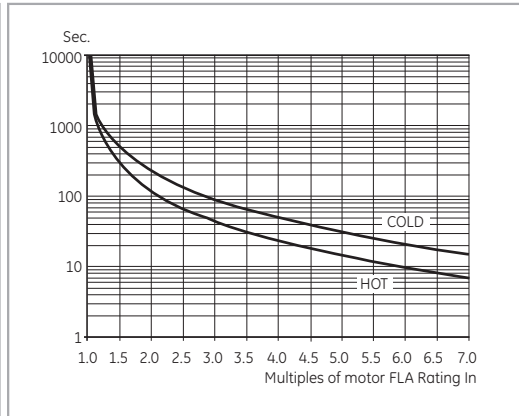
Overload Protections, Thermal Characteristics

The ASTAT XT Soft Starter allows motor protection according IEC Class 10 or Class 20 and NEMA 10, 20 or 30, user free selectable by ASTAT internal dedicated parameter.

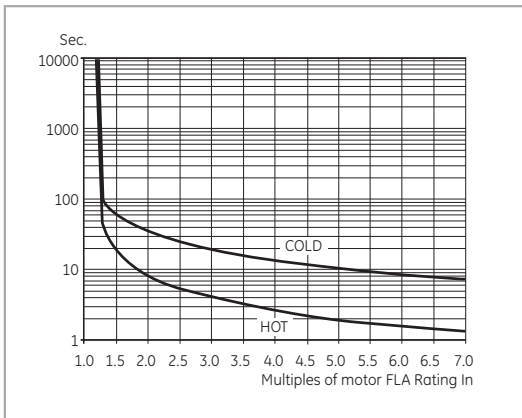
IEC Class 10



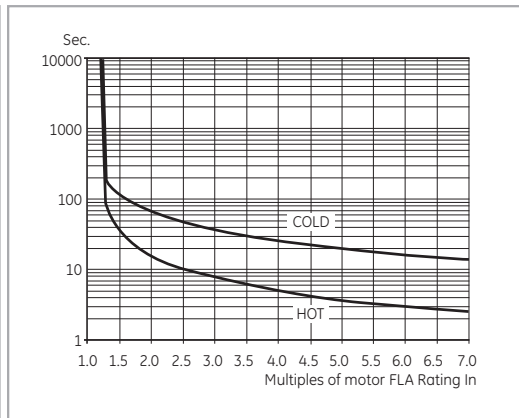
IEC Class 20



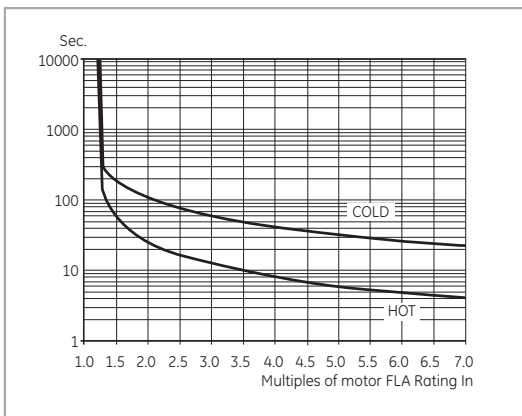
NEMA 10



NEMA 20



NEMA 30



Maximum number starting / hour

Starting current I/In ¹	Ramp time		
	10s	20s	30s
2	24	12	8
3	16	8	5
4	12	6	4

¹In= rated current of ASTAT XT Soft Starter in the specified class IEC/NEMA.

