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Industrial Solutions

# Powerful features Easy application

ASTAT XT Soft Starters



imagination at work

## ASTAT XT Soft Starters

# Smooth, reliable performance for extended motor and component life

The ASTAT XT soft starter delivers reliable performance and smooth acceleration for a range of standard AC motors, from 8A-1400A and from 230V-690V. By controlling motor acceleration and deceleration, it reduces mechanical wear and tear on motors better than across-the-line starting methods. This is particularly true in such applications as pumps, fans, compressors and conveyors.



### Ratings

#### Current ratings

8A-1400A:  
8, 17, 31, 44, 58, 72, 85, 105, 145, 170, 210,  
310, 390, 460, 580, 820, 950\*, 1100\*, 1400\*

#### Line Voltage

3ph, 230-500V 50/60Hz.  
(Type QT1x, 1400V PIV ratings )  
3ph, 460-600V 50/60Hz.  
(Type QT2x, 1600V PIV ratings )  
3ph, 690V 50/60Hz.  
(Type QT3x, 1800V PIV ratings )

#### Frequency Range

45Hz-65Hz,  
auto-tracking frequency range

#### Control Voltage

230VAC, +10, -15%, 50/60Hz or  
110VAC, +10, -15%, 50/60Hz

### Environmental Conditions

#### Operating

-10°C to 50°C

#### Temperature

#### Altitude

Up to 3300ft or 1000m

#### Humidity

95% at 50°C or 98% at 45°C

#### Protection Degree

Open/IP20 up to 72A, Open/IP00 from  
85-1400A

\*Non-UL

All ASTAT XT soft starter models from 950A and up  
**must** be operated with a bypass contactor.

# Powerful features for demanding applications

## Motor Protection

IEC Class 10 or 20 and NEMA Class 10, 20 and 30 overload

## Built-in Bypass Terminals

Extra power terminals are standard to allow easy installation of an external bypass contactor

All ASTAT XT soft starter models from 950A and up **must** be operated with a bypass contactor.

## Pump Control

Avoids overpressure at the end of the acceleration phase and suppresses hammering at the stopping phase

## Communication Networks

Modbus RTU is built in, factory-installed DeviceNet or Profibus DP are optionally available

## LCD Display & Six-Button Keypad

Saves time by setting up the ASTAT XT soft starter using full parameter descriptions instead of codes

## In-Line or Inside-Delta Operation

Choose either traditional Line or Inside Delta operation, which allows the ASTAT XT soft starter to easily replace Y/D starters and allows the unit's rating to be reduced by as much as 1.5 times

## Torque Control

Controlled torque ramps produce results close to linear speed without tachometer feedback

## Generator Supply

Helps minimize the negative effects caused by the generator voltage fluctuations during starting



# A simple interface for fast set-up and operation

Its backlit LCD screen, which delivers full descriptions of parameters, makes the ASTAT XT soft starter easy to use. In two rows of 16 characters each, it displays the function selected and the value of the setting and/or monitor. Selecting and changing parameters is simply done with the arrow keys. Via any one of four selectable user languages (English, German, Italian, Spanish), it delivers:

- Data Readouts –  
e.g. Line Voltage, Motor Current, etc.
- Fault Diagnostics –  
e.g. Overload, Overvoltage, Undercurrent
- Statistical Data –  
e.g. Elapsed Run Time, Fault Recording, Trip Event, etc.
- Parameter Settings –  
e.g. Acceleration Time, Starting Voltage, Motor FLA



# NEMA and IEC Ratings

## Recommended Unit Type and Motor Ratings

### NEMA

Line Voltage	Light Duty NEMA 10				Normal Duty NEMA 20				Heavy Duty NEMA 30				Cat. No
	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	
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	
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	

### IEC

Line Voltage	Normal Duty IEC Class 10		Heavy Duty IEC Class 20		Cat. No.
	A	KW	A	KW	
690V	8	5.5	8	5.5	QT30008U11MS
	17	15	12	7.5	QT30017U11MS
	31	22	31	22	QT30031U11MS
	44	37	44	37	QT30044U11MS
	58	55	55	45	QT30058U11MS
	72	55	66	55	QT30072U11MS
	85	75	80	75	QT30085U11MS
	105	90	99	90	QT30105U11MS
	145	132	130	90	QT30145U11MS
	170	160	134	132	QT30170U11MS
	210	200	203	200	QT30210U11MS
	310	250	310	250	QT30310U11MS
	390	355	344	315	QT30390U11MS
	460	400	432	400	QT30460U11MS
	580	560	488	400	QT30580U11MS
	650	630	552	560	QT30820U11MS
950	900	950	900	QT30950U11MS	
1100	1000	1076	1000	QT31100U11MS	
1400	-	1400	-	QT31400U11MS	

For 230V Control Voltage - Change the "1" in digit place 9 to "2". Example QT10031U11MS becomes QT10031U21MS.

For 24V DC Digital I/O - Change the "1" in digit 10 to "2". Example QT20072U11MS becomes QT20072U21MS.

For Profibus DP Communications - Change the "M" in digit 11 to "P". Example QT10390U11MS becomes QT10390U11PS.

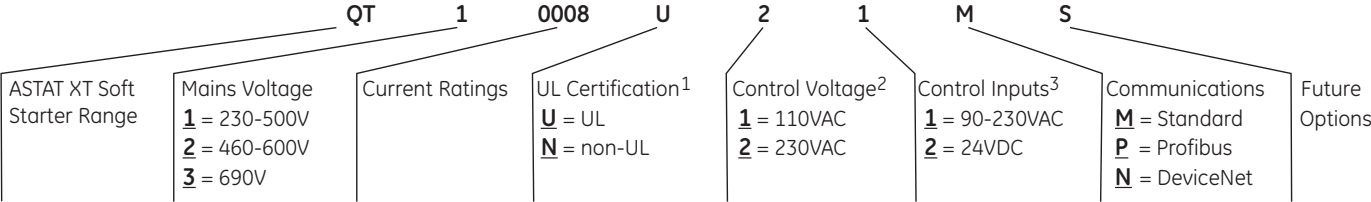
For DeviceNet Communications - Change the "M" in digit 11 to "D". Example QT20085U11MS becomes QT20085U11DS.

All ASTAT XT soft starter models from 950A and up **must** be operated with a bypass contactor.

ASTAT XT soft starter remote keypad kit, product number **QTAKPADKIT1**, is for units from 8A to 72A.

ASTAT XT soft starter remote keypad kit, product number **QTAKPADKIT2**, is for units from 85A to 1400A.

# Product Number Configuration



**Notes:**

cUL Certification

- 1 ASTAT 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

- 2 ASTAT XT soft starter standard Control Voltage configuration is option 2, Voltage 230VAC, +10%, -15%
- 3 ASTAT XT soft starter standard configuration for Inputs is option 1, Voltage 90-230VAC, +10%, -15%

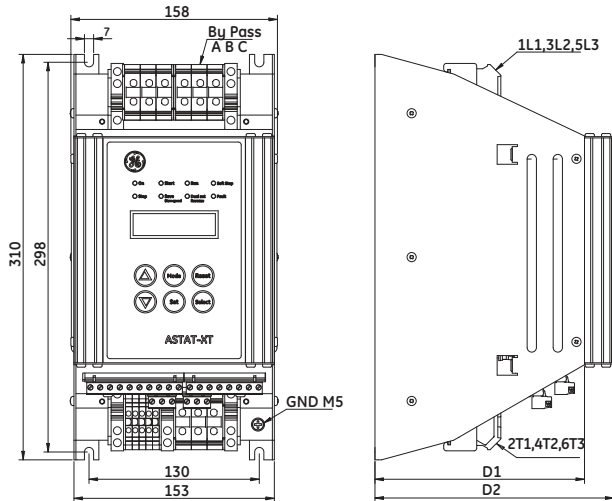
# Dimensions

## Power Terminal Sizes (mm<sup>2</sup>), All Units

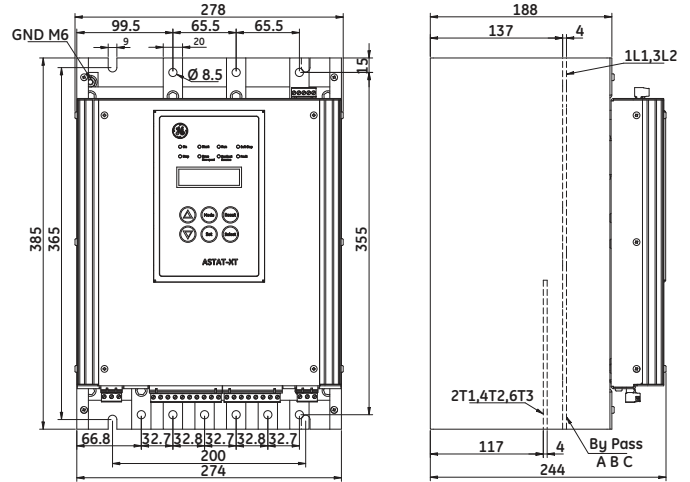
Input 1L1, 3L2, 5L3	Bypass A, B, C	Output 2T1, 4T2, 6T3
16	16	16
16	16	16
16	16	16
16	16	35
16	16	35
35	35	35

## UL Certified Units

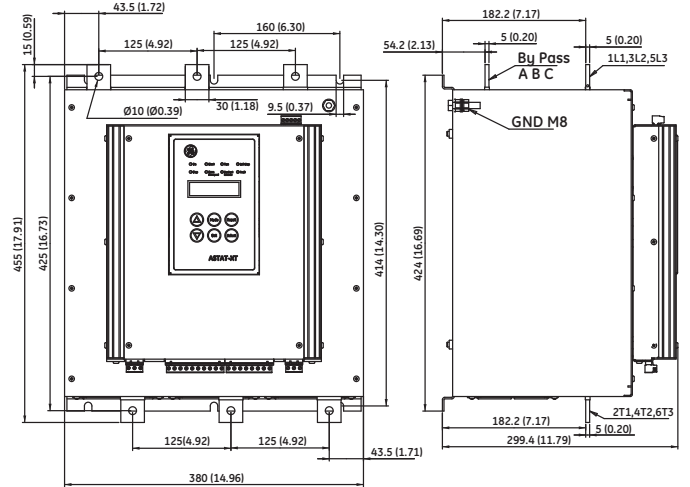
Cat. No.	Dimensions (in.)				Weight (lb.)
	Height	Width	D1	D2	
QTx0008U__	12.2	6.2	6.3	7.2	9.9
QTx0017U__	12.2	6.2	6.3	7.2	9.9
QTx0031U__	12.2	6.2	6.3	7.2	13.2
QTx0044U__	12.2	6.2	8.1	9.0	16.5
QTx0058U__	12.2	6.2	8.1	9.0	16.5
QTx0072U__	12.2	6.2	8.1	9.0	16.5



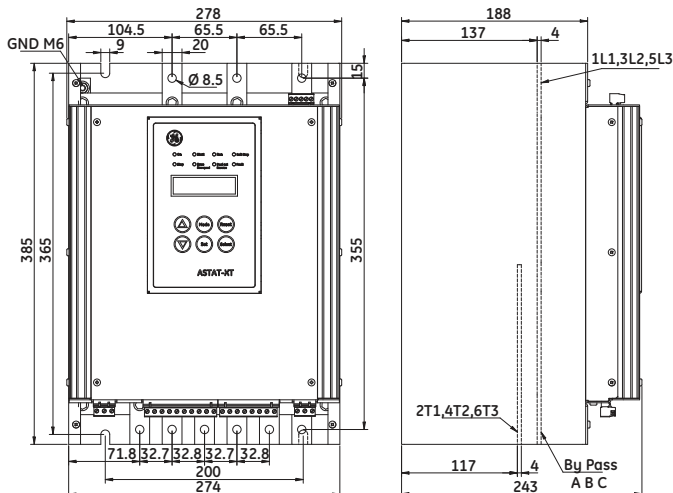
Cat. No.	Dimensions (in.)			Weight (lb.)
	Height	Width	Depth	
QTx0145U__	15.2	10.9	9.6	32
QTx0170U__	15.2	10.9	9.6	32



Cat. No.	Dimensions (in.)			Weight (lb.)
	Height	Width	Depth	
QTx0210U__	17.91	14.96	11.79	70.5
QTx3100U__	17.91	14.96	11.79	70.5
QTx0390U__	17.91	14.96	11.79	70.5

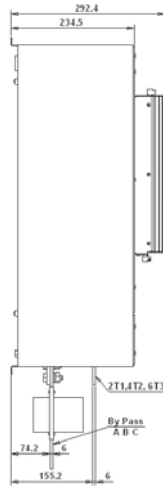
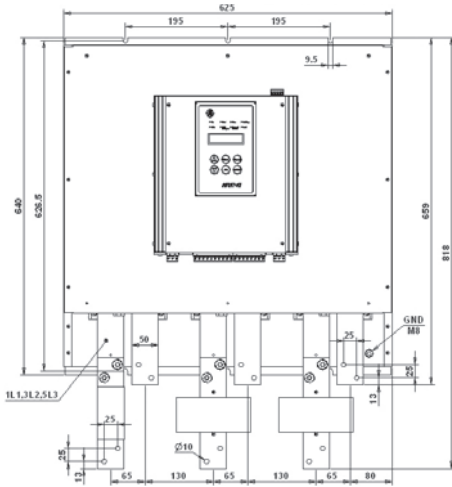


Cat. No.	Dimensions (in.)			Weight (lb.)
	Height	Width	Depth	
QTx0085U__	15.2	10.9	9.6	32
QTx0105U__	15.2	10.9	9.6	32





Cat. No.	Dimensions (in.)			Weight (lb.)
	Height	Width	Depth	
QTx0460U__	32.2	24.6	11.5	86



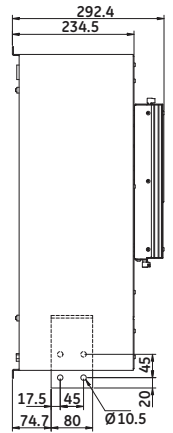
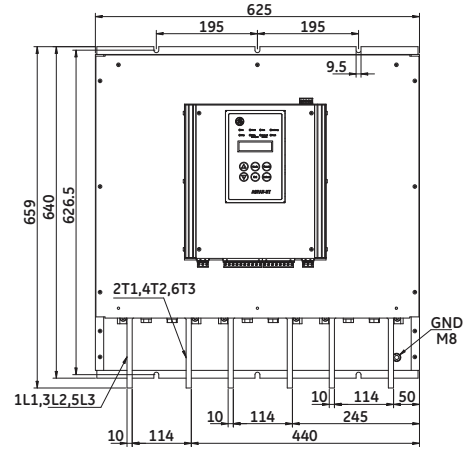
### Non-UL Certified Units

Cat. No.	Dimensions (in.)			Weight (lb.)
	Height	Width	Depth	
QTx0950N__	25.9	24.6	11.5	184

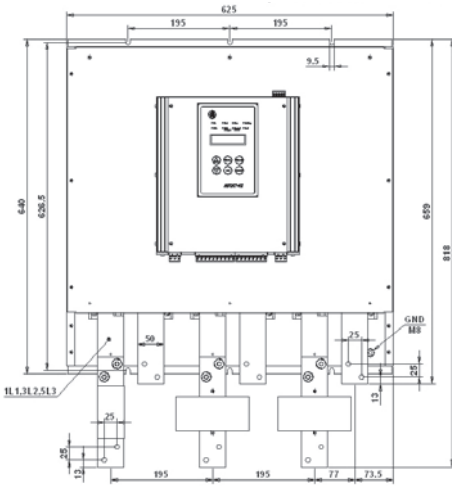
#### Notes:

- This unit **must** be operated with a bypass contactor
- Add space for current transformers (supplied separately from the main unit) and bus bars for preparation for bypass

Approximate current transformers dimensions: W=240mm, H=130mm, D=90mm



Cat. No.	Dimensions (in.)			Weight (lb.)
	Height	Width	Depth	
QTx0580U__	32.2	24.6	11.5	106
QTx0820U__	32.2	24.6	11.5	143



Cat. No.	Dimensions (in.)			Weight (lb.)
	Height	Width	Depth	
QTx1100N__	43.3	28.5	14.8	375
QTx1400N__	43.3	28.5	14.8	375

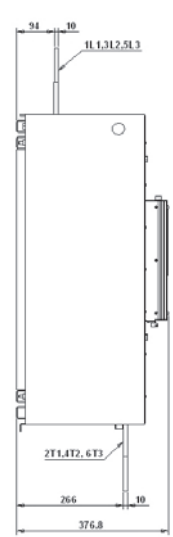
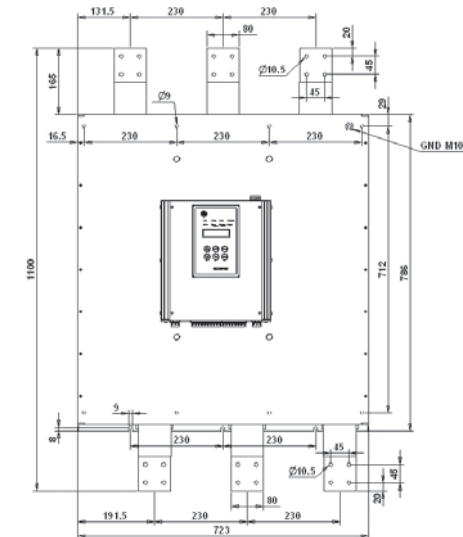
#### Notes:

- Units **must** be operated with a bypass contactor
- Add space for current transformers (Supplied separately from main unit) and bus bars for preparation for bypass

Approximate current transformers dimensions:

W=240mm, H=130mm, D=90mm. (for 1100A unit, Product Numbers QTx1100N\_\_)

W=270mm, H=155mm, D=90mm. (for 1400A unit, Product Numbers QTx1400N\_\_)

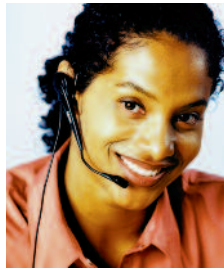


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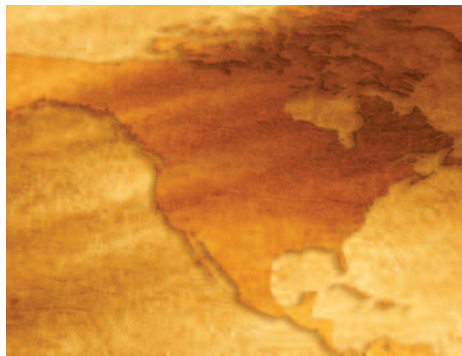
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