

# ALTISTART® 48 Soft Starts



**ALTISTART® 48  
Family**

## ALTISTART® 48 Soft Starts

*The ALTISTART 48 soft start offers advanced electronic soft start, soft stop performance through the exclusive torque control system (TCS). By controlling motor torque, the ALTISTART 48 soft start provides enhanced control for a wide variety of applications versus traditional voltage ramp or current limit soft starters. TCS optimizes ramp control during soft starting and stopping, minimizes motor temperature during acceleration and requires minimal adjustment for most applications. With TCS, unscheduled downtime is reduced, and motor and machine life extended.*

*Additional advanced features of the ALTISTART 48 soft start, including PTC probe motor protection, POWERSUITE™ software and MODBUS® protocol, meet the high demands of automated facilities for advanced motor protection and communication capabilities. The compact ALTISTART 48 accommodates ranges for low powered (2 to 1200 hp) and low voltage (208 V to 575 V) motors.*

## Key Benefits

### Torque Control System

- Torque control system (TCS) provides linear acceleration and deceleration independent of motor loading.
- Controlled acceleration for high inertia loads and air supply fans.
- Provides the ability to control motors oversized for applications by up to 30%.

### Ease of use

- Dual ramp makes external changeover circuit unnecessary.
- Factory settings conform to a majority of installations without adjustment.
- Preset for quick and easy set-up and installation.
- PC commissioning software provides an intuitive graphical method of testing and commissioning.
- Digital keypad allows quick modification of factory settings, accurate setting, and prediction of acceleration and deceleration times, start configuration and motor performance monitoring.

### Reliability

- Meets UL requirement for motor overload and ground fault protection without extra options.
- Designed to conform to the electromagnetic compatibility (EMC)

standards for immunity, including IEC 801-2 Level 3, IEC 801-3 Level 3, IEC 801-4 Level 4 and IEC 801-5 Level 3.

- Meets more applications – a pump-specific version is not required to handle water hammer problems.

### Ease of Selection

- Available in 21 current ratings from 17 to 1200 A.
- $\pm 5\%$  frequency tolerance for Class 3 Generator market reduces nuisance tripping.
- One ALTISTART 48 available for every standard motor rating from 10 to 1000 hp at 460 VAC.
- All motor loads rated for use at 208, 230, 380, 460 or 575 VAC at 50 or 60 Hz are self-adjusting for greater flexibility.

### Options

- Operator interface developed for quick and easy programming and real-time monitoring of motor and soft start performance
- Remote mount kit
- POWERSUITE™ products for easy testing and commissioning
- Remote terminal option available for increased input and output capability
- Communication options include:
  - Web-based Ethernet
  - FIPIO
  - MODBUS® Plus
  - DEVICENET™



## Details Make a Difference — ALTISTART® 48 Soft Starts

- Performance with exclusive torque control system (TCS)
- 30% smaller than the ALTISTART 46
- 208 to 575 V
- Three seven-segment displays
- IP20 and IP00 design
- Thermal protection by I<sup>2</sup>t calculation
- Thermal protection with PTC probes
- Simplified wiring with top and bottom connections
- Integrated MODBUS® Protocol
- RJ45 “RS 485” communication port
- POWERSUITE™ software
- Three current sensors
- Overload detection function
- Bypass available on all ratings
- Automatic restart
- Integrated functional keypad
- SCRs designed with 1800 V PIV ratings
- Frequency tolerance ±5%
- Rated up to 60°C



## Selection Guide — ALTISTART® 48 Soft Starts

### Open Style Soft Starters 50/60 Hz, Three Phase, 208/575 V Maximum

Motor (Maximum Power)

Standard Duty						
208 V HP	230 V HP	400 V kW	460 V HP	575 V HP	Rated Amps	Catalog Number
3	5	7.5	10	15	17	ATS48D17Y
5	7.5	11	15	20	22	ATS48D22Y
7.5	10	15	20	25	32	ATS48D32Y
10	–	18.5	25	30	38	ATS48D38Y
–	15	22	30	40	47	ATS48D47Y
15	20	30	40	50	62	ATS48D62Y
20	25	37	50	60	75	ATS48D75Y
25	30	45	60	75	88	ATS48D88Y
30	40	55	75	100	110	ATS48C11Y
40	50	75	100	125	140	ATS48C14Y
50	60	90	125	150	170	ATS48C17Y
60	75	110	150	200	210	ATS48C21Y
75	100	132	200	250	250	ATS48C25Y
100	125	160	250	300	320	ATS48C32Y
125	150	220	300	350	410	ATS48C41Y
150	–	250	350	400	480	ATS48C48Y
–	200	315	400	500	590	ATS48C59Y
200	250	355	500	600	660	ATS48C66Y
250	300	400	600	800	790	ATS48C79Y
350	350	500	800	1000	1000	ATS48M10Y
400	450	630	1000	1200	1200	ATS48M12Y

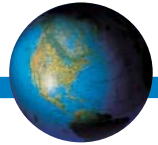
## Specifications — ALTISTART® 48 Soft Starts

### Environment

Degree of protection	IP20 for ATS48 D17Y to C11Y IP00 for ATS48 C14Y to M12Y
Shock resistance	Conforms to IEC 60068-2-27: 15 g, 11 ms
Vibration resistance	Conforms to IEC 60068-2-6, NCF 20706 and BV1: 1.5 mm peak from 2 to 13 Hz 1 gn from 13 to 200 Hz
Starter audible noise level	Audible noise measurements taken 1 m away. The noise levels may change depending on the fan characteristics: ATS48D17Y to D47Y: 52 dBA ATS48D62Y to C11Y: 58 dBA ATS48C14Y to C17Y: 50 dBA ATS48C21Y to C32Y: 54 dBA ATS48C41Y to C66Y: 55 dBA ATS48C79Y to M12Y: 60 dBA
Resistance to electrostatic discharges	Conforms to IEC 61000-4-2, Level 3
Immunity to radio-electric interference	Conforms to IEC 61000-4-3, Level 3
Immunity to rapid electrical transients	Conforms to IEC 6100-4-4, Level 4
Ambient air temperature	Storage: -13 to +158°F (-25 to +70°C) Operation: 14 to +104°F (-10°C to +40°C) without derating 14 to +122°F (-10°C to +50°C) with user provided shorting/bypass contactor without derating Up to +140°F (+60°C), derate the current by 2% for each°C above 40°C
Maximum relative humidity	95% without condensation or dripping water conforming to IEC 60068-2-3
Maximum ambient pollution	Conforms to IEC 60664-1, Pollution Degree 3
Maximum operating altitude	3,300 ft. without derating Above this, derate the nominal current by 2.2% for each additional 100 m to a maximum of 2000 m
Operating position	Maximum inclination $\pm 10^\circ$ with respect to vertical

### Electrical Characteristics

Operating category	Conforms to IEC 60947-4-2, AC-53a
Three-phase supply voltage	208 VAC - 15% to 690 VAC +10%, 50/60 Hz
Frequency	Automatic sensing (preset), $\pm 5\%$ : • 60 Hz: 56.6 to 63.8 Hz • 50 Hz: 47.6 to 52.6 Hz Manual selection, $\pm 20\%$ : • 50 Hz: 40 to 60 Hz • 60 Hz: 48 to 72 Hz
Rated current (ICL)	17 to 1200 A (21 device ratings)
SCRs	1800 V peak inverse voltage (PIV) rating
Motor power	2 to 1200 hp
Motor voltage	208, 230, 400, 460, 575 and 690 VAC
Starter control circuit supply voltage	110 VAC - 15% to 230 VAC, +10% 50/60 Hz
Maximum control circuit consumption (with fans operating)	ATS48D17Y to C17Y: 30W ATS48C21Y to C32Y: 50W ATS48C41Y to M12Y: 80W
Protection	<ul style="list-style-type: none"> <li>• Integrated thermal I<sup>2</sup>t protection for motor (Class 2, 10, 10A, 15, 20, 25, 30 or no protection) and/or thermal protection with PTC probes</li> <li>• Motor underload settings</li> <li>• Current overload settings</li> <li>• Phase reversal</li> <li>• Phase loss</li> <li>• Automatic restart</li> </ul>



**Electromagnetic Compatibility (EMC) [1]**

	Standards	Test Levels	Examples (sources of interference)
Immunity tests	IEC 61000-4-2, Level 3 Electrostatic discharge: • through contact • through air	6 kV 8 kV	Contact off an electrically charged individual
	IEC 61000-4-3, Level 3 Radiated electromagnetic fields	10 V/m	Equipment transmitting radio frequencies
	IEC 61000-4-4, Level 4 Rapid electrical transients: • Power supply cables • Control supply cables	4 kV 2 kV	Opening/closing of a contactor
	IEC 61000-4-5, Level 3 Shock wave: • Phase to phase • Phase to ground	1 kV 2 kV	
	IEC 61000-4-12, Level 3 Damped oscillating waves	1 kV - 1 MHz	Oscillating circuit on the line supply
Radiated and conducted emissions	IEC 60947-4-2, Class A		
	IEC 60947-4-2, Class B on starters up to 170A (ATS48D17Y to C17Y) Shorting/bypass contactors must be utilized.		

[1] The starters conform to IEC 60947-4-2 (EMC). This standard ensures a level of immunity for products and a level of emitted interference.

**Dimensions and Weights — ALTISTART® 48 Soft Starts**

	Width (inches)	Height (inches)	Depth (inches)	Weight (lbs.)
<b>Size 1</b>				
ATS48D17Y	6.30	10.83	7.48	10.8
ATS48D22Y				
ATS48D32Y				
ATS48D38Y				
ATS48D47Y				
<b>Size 2</b>				
ATS48D62Y	7.48	11.42	9.25	18.3
ATS48D75Y				
ATS48D88Y				
ATS48C11Y				
<b>Size 3</b>				
ATS48C14Y	7.87	13.39	10.43	27.3
ATS48C17Y				
<b>Size 4</b>				
ATS48C21Y	12.60	14.96	10.43	40.1
ATS48C25Y				
ATS48C32Y				
<b>Size 5</b>				
ATS48C41Y	15.75	26.38	11.81	113.3
ATS48C48Y				
ATS48C59Y				
ATS48C66Y				
<b>Size 6</b>				
ATS48C79Y	30.31	35.04	12.40	253.6
ATS48M10Y				
ATS48M12Y				

