

Telemecanique Altistart 48 Soft Starter



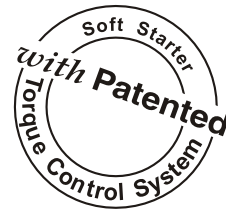
Let's limit the peaks



Range : 7.5kW to 630/800kW



ATS 48



PRESENTATION

Altistart 48 is a high performance soft starter using 6 thyristors for controlled starting of 3 phase asynchronous squirrel cage induction motors. It provides :

- Torque Controlled starting & stopping.
- Electronic thermal overload protection.
- Mechanical protection to driven machine.
- Increased life to mechanical power transmitting gadgets and driven machinery.
- Reduced stress on power supply network.

SPECIFICATIONS

Control method	Torque Control (Schneider's patent)
Rated input Voltage	200V - 15%415V+10%
Rated input Frequency	50 / 60 Hz +/- 5% (automatic) 50 or 60 Hz +/- 20% (configurable)
Normal current	17 to 1200 A
Current Adjustment	The motor nominal current (In) is adjustable from 0.4 to 1.3 times the starter current rating. Maximum starting current programmable from 1.5 to 7 times the motor nominal current, limited to 5 times the starter current limit.
Control Inputs / Outputs	4 logic inputs, impedance 4.3K. Power Supply 24V max. 8mA 2 Logic outputs, 24V Max. output current 200mA if supplied externally 1 Analogue output (0-20mA or 4-20mA), Max. load impedance 500, Accuracy +/- 5%
Acc. / Dec. time	1 - 60 sec. (Programmable individually)
Motor Protection	Inbuilt Electronic Thermal protection (selectable for starting classes 2, 10A, 10, 15, 20, 25 & 30), stall protection, under load protection (to avoid dry run of pump), reversal of rotation (important for pump)
Starter Protection	Short circuit, undervoltage, phase unbalance, phase failure
Standard Functions	Test on smaller motor, cascaded starting of several identical/different motors, starting multiple motors in parallel.
Communication	RS485 MODBUS multidrop serial link port for RJ45 connector integrated in the starter Transmission speed 4800, 9600 or 19200 bps. Max. 18 starters on a network. The same port can be used for connection to a remote terminal or PC.
Conformity to standards	IEC 947-4-2, UL, CSA approved & CE marked
Degree of protection	IP 20 (ATS48D17Q to 48C11Q) IP 00 (ATS48C11Q to 48M12Q)
Ambient temp.	0° C to 40° C without derating. Above 40° C upto 60° C with derating @ 2% per degree rise in temperature.
Max. Relative humidity	95% without condensation or dripping water
Max. operating altitude	1000m without derating. (Above this, current derating applicable @ 2.2% per additional 100m) Max. 2000m
Operating position	Vertical

UNIQUE FEATURES

- Excellent bypass possibilities (at the end of start) are available:
- Separate set of terminals are integrated to terminate cables going to bypass contactor.
 - Even in bypass mode inbuilt Electronic thermal over-load remains in circuit.
 - No external CT required for current measurement.

ATS 48

SELECTION TABLE

REFERENCE	Line connection				Delta connection			
	NORMAL DUTY		HEAVY DUTY		NORMAL DUTY		HEAVY DUTY	
	NOMINAL CURRENT (Amp)	MOTOR RATING (kW)	NOMINAL CURRENT (Amp)	MOTOR RATING (kW)	NOMINAL CURRENT (Amp)	MOTOR RATING (kW)	NOMINAL CURRENT (Amp)	CURRENT RATING (kW)
ATS 48D17Q	17	7.5	12	5.5	29	15	22	11
ATS 48D22Q	22	11	17	7.5	38	18.5	29	15
ATS 48D32Q	32	15	22	11.0	55	22	38	18.5
ATS 48D38Q	38	18.5	32	15.0	66	30	55	22
ATS 48D47Q	47	22	38	18.5	81	45	66	30
ATS 48D62Q	62	30	47	22.0	107	55	81	45
ATS 48D75Q	75	37	62	30.0	130	55	107	55
ATS 48D88Q	88	45	75	37.0	152	75	130	55
ATS 48C11Q	110	55	88	45.0	191	90	152	75
ATS 48C14Q	140	75	110	55.0	242	110	191	90
ATS 48C17Q	170	90	140	75.0	294	132	242	110
ATS 48C21Q	210	110	170	90.0	364	160	294	132
ATS 48C25Q	250	132	210	110.0	433	220	364	160
ATS 48C32Q	320	160	250	132.0	554	250	433	220
ATS 48C41Q	410	220	320	160	710	315	554	250
ATS 48C48Q	480	250	410	220	831	355	710	315
ATS 48C59Q	590	315	480	250	1022	400	831	355
ATS 48C66Q	660	355	590	315	1143	500	1022	400
ATS 48C79Q	790	400	660	355	1368	630	1143	500
ATS 48M10Q	1000	500	790	400	1732	710	1368	630
ATS 48M12Q	1200	630	1000	500	2078	–	1732	710

Normal Duty : Normal duty for ATS48 soft starter is defined with limiting the total starting, stopping or braking time to 6.3% of operating time on hourly basis (230sec/Hr.) with three times the motor nominal current.

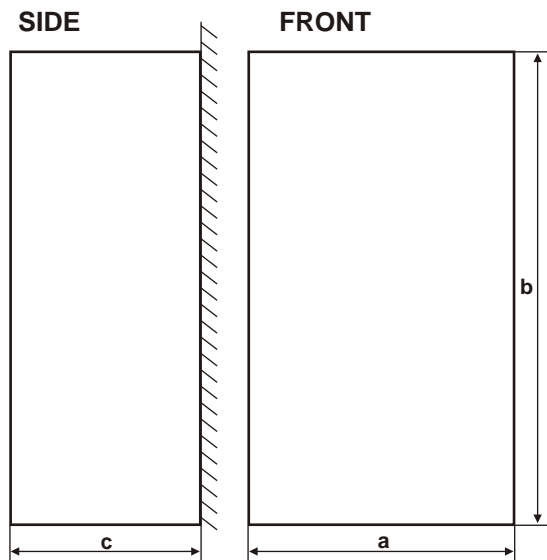
For example

- 38 starts of 6 sec each or 10 starts of 23 sec each.
- 19 starts of 6 sec each & 19 decelerated stops of 6 sec each.
- 5 starts of 23 sec each & 5 decelerated stops of 6 sec each.

Above these levels the duty will be considered as **HEAVY DUTY**.

ATS 48

Dimensions (in mm)



ATS 48	a	b	c
D17 to D47	160	275	190
D62 to C11	190	290	235
C14 to C17	200	340	265
C21 to C32	320	380	265
C41 to C66	400	670	300
C79 to M12	770	890	315

LH4 Torque dampener/Soft start & soft stop units

PRESENTATION

LH4N1 is a torque dampening unit having a pair of thyristors in one phase only whereas LH4N2 is a soft start - soft stop unit having a pair of thyristor in two phases only. These can be used for starting small asynchronous motors. LH4 provides :

- Reduced peak torques (LH4N1)
- Reduced peak torques & peak current (LH4N2)
- Reduced stress on supply network (LH4N2)



USAGE

LH4 can be used down the line to a DOL starter as it does not have protections in-built. Protections like short circuit & overload have to be provided externally. LH4N1 needs a contactor for remote control, whereas LH4N2 can be remote controlled through its logic input. LH4 has an integrated relay/contacter to bypass the thyristors at the end of start. This reduces: (a) power wastage (which lead to reduced temp. rise) in softstart unit (b) harmonic generation during running.

SELECTION TABLE

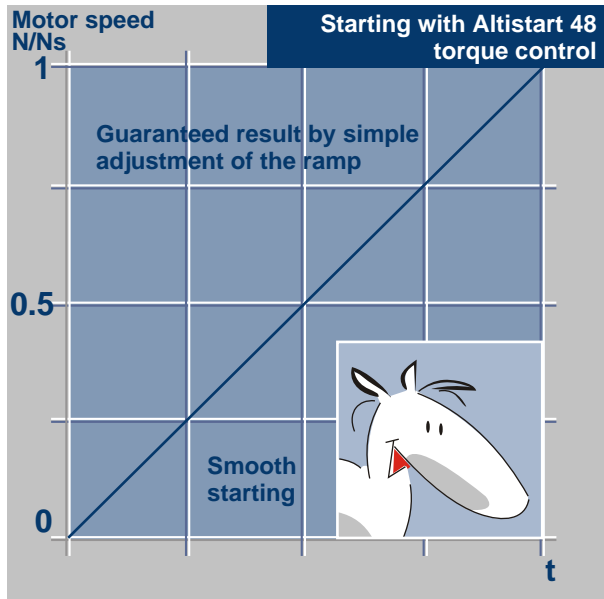
LH4N1 TORQUE DAMPENING UNIT				
MAINS SUPPLY VOLTAGE	3 PHASE MOTOR RATING	ADJUSTABLE ACC./DEC. TIME	LH4'S RATED* CURRENT	REFERENCE
380..415V 50/60 HZ 3 PHASE	3 KW	1 - 5 Sec	6	LH4 N106 QN7
	5.5 KW	1 - 5 Sec	12	LH4 N112 QN7
	11 KW	1 - 5 Sec	22	LH4 N125 QN7
LH4N2 SOFT START & SOFT STOP UNIT				
380..415V 50/60 HZ 3 PHASE	3 KW	1 - 5 Sec	6	LH4 N206 QN7
	5.5 KW	1 - 5 Sec	12	LH4 N212 QN7
	11 KW	1 - 5 Sec	22	LH4 N225 QN7
	15 KW	1 - 25 Sec	32	LH4 N230 Q7
	22 KW	1 - 25 Sec	44	LH4 N244 Q7
	37 KW	1 - 25 Sec	72	LH4 N272 Q7
	45 KW	1 - 25 Sec	85	LH4 N285 Q7



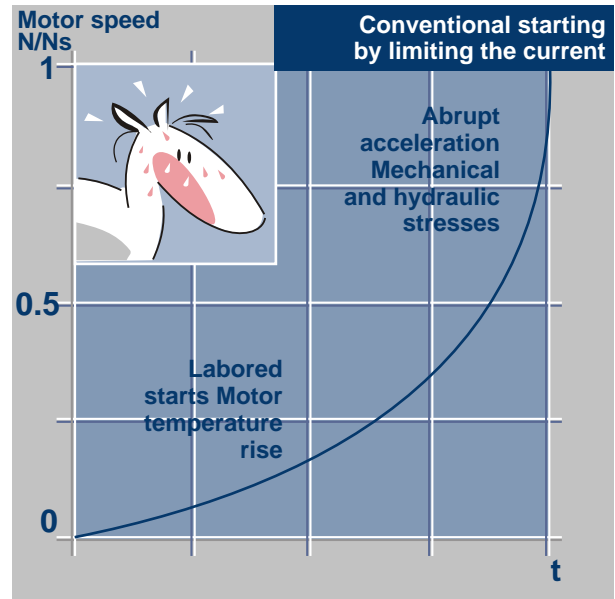
* 30 start / stops, 3 In for 12 sec. each maximum or equivalent. For number of start/stops higher than this, select one size higher unit to take care of increased heating.

ATS 48

Advantage of patented Torque Control System



Control of the motor torque for the whole acceleration and deceleration period



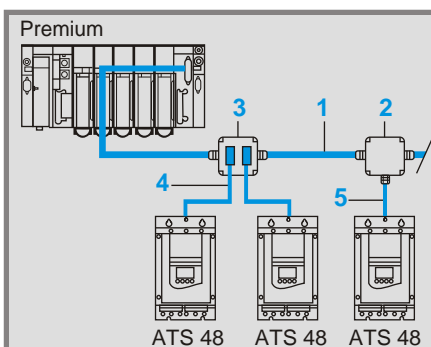
Motor torque not controlled : non-linear acceleration and deceleration

Optional Remote Terminal

The terminal VW3G48101 can be mounted on the door of the enclosure. It has same signaling display and configuration buttons as the inbuilt terminal

The option consist of:

- a remote terminal
- a mounting kit containing a cover, screws and an IP 54 seal
- a 3 m long cable having 9-way SUB-D connector on one end and an RJ-45 connector on the other end



1. Modbus cable TSX CSA 100
2. Junction box TSX SCA 50
3. Subscriber sockets TSX SCA 62
4. Modbus drop cable VW3 A8 306
5. Modbus drop cable VW3 A8 306 D30

ATS 48 in a Modbus Network

The ATS 48 can be directly connected to modbus using RJ45 connector and Modbus drop cable. Maximum 18 ATS 48's can be hooked to a network.

Communicator on Ethernet, FIPIO, Devicenet & Profibus also possible by using suitable bridge / gateway.

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