Product data sheet
Characteristics

ATSU01N209LT
soft starter for asynchronous motor - ATSU01 - 9 A - 200..480V - 1.5..4 KW

Main

Range of product	Altistart U01 and TeSys U
Product or component type	Soft starter
Product destination	Asynchronous motors
Product specific application	Simple machine
Device short name	ATSU01
Network number of phases	3 phases
[Us] rated supply voltage	200...480 V - 10...10 %
Motor power kW	4 kW, 3 phases at 400 V 1.5 kW, 3 phases at 230 V
Motor power hp	2 hp, 3 phases at 230 V 5 hp, 3 phases at 460 V
IcL starter rating	9 A
Utilisation category	AC-53B conforming to EN/IEC 60947-4-2
Current consumption	65 mA
Type of start	Start with voltage ramp
Power dissipation in W	1.5 W at full load and at end of starting 91.5 W in transient state

Complementary

Assembly style	With heat sink
Function available	Integrated bypass
Supply voltage limits	180…528 V
Supply frequency	50...60 Hz - 5...5 %
Network frequency	47.5...63 Hz
Output voltage	<= power supply voltage
[Uc] control circuit voltage	24 V DC +/- 10 %
Starting time	1 s / 100 5 s / 20 10 s / 10 Adjustable from 1 to 10 s
Deceleration time symb	Adjustable from 1 to 10 s
Starting torque	30...80 % of starting torque of motor connected directly on the line supply
Discrete input type	Logic (LI1, LI2, BOOST) stop, run and boost on start-up functions <= 8 mA 27 kOhm

Discrete input voltage	24...40 V
Input output isolation	Galvanic between power and control
Discrete input logic	Positive LI1, LI2, BOOST at State 0: < 5 V and <= 0.2 mA at State 1: > 13 V, >= 0.5 mA
Discrete output current	2 A DC-13 3 A AC-15
Discrete output type	Open collector logic LO1 end of starting signal Relay outputs R1A, R1C NO
Discrete output voltage	24 V (voltage limits: 6...30 V) open collector logic
Minimum switching current	10 mA at 6 V DC for relay outputs
Maximum switching current	Relay outputs: 2 A at 30 V DC cos phi = 0.5 and L/R = 20 ms inductive load Relay outputs: 2 A at 250 V AC AC-15 cos phi = 0.5 and L/R = 20 ms inductive load
Maximum switching voltage	440 V relay outputs
Display type	1 LED (green) for starter powered up 1 LED (yellow) for nominal voltage reached
Tightening torque	0.5 N.m 1.9…2.5 N.m
Electrical connection	4 mm screw clamp terminal - rigid 1 1...10 mm² AWG 8 power circuit Screw connector - rigid 1 0.5...2.5 mm² AWG 14 control circuit 4 mm screw clamp terminal - rigid 2 1...6 mm² AWG 10 power circuit Screw connector - rigid 2 0.5...1 mm² AWG 17 control circuit Screw connector - flexible with cable end 1 0.5...1.5 mm² AWG 16 control circuit 4 mm screw clamp terminal - flexible without cable end 1 1.5...10 mm² AWG 8 power circuit Screw connector - flexible without cable end 1 0.5...2.5 mm² AWG 14 control circuit 4 mm screw clamp terminal - flexible with cable end 2 1...6 mm² AWG 10 power circuit 4 mm screw clamp terminal - flexible without cable end 2 1.5...6 mm² AWG 10 power circuit Screw connector - flexible without cable end 2 0.5...1.5 mm² AWG 16 control circuit
Marking	CE
Operating position	Vertical +/- 10 degree
Height	234 mm
Width	45 mm
Depth	150 mm
Net weight	0.34 kg
Motor power range AC-3	1.1…2 kW at 200…240 V 3 phases 2.2…3 kW at 380…440 V 3 phases 4…6 kW
Motor starter type	Soft starter

Environment

Electromagnetic compatibility	Conducted and radiated emissions level B conforming to CISPR 11 Conducted and radiated emissions level B conforming to IEC 60947-4-2 Damped oscillating waves level 3 conforming to IEC 61000-4-12 Electrostatic discharge level 3 conforming to IEC 61000-4-2 EMC immunity conforming to EN 50082-1 EMC immunity conforming to EN 50082-2 Harmonics conforming to IEC 1000-3-2 Harmonics conforming to IEC 1000-3-4 Immunity to electrical transients level 4 conforming to IEC 61000-4-4 Immunity to radiated radio-electrical interference level 3 conforming to IEC 61000-4-3 Voltage/current impulse level 3 conforming to IEC 61000-4-5 Conducted and radiated emissions level 3 conforming to IEC 61000-4-6 Immunity to conducted interference caused by radio-electrical fields conforming to IEC 61000-4-11
Standards	EN/IEC 60947-4-2
Product certifications	UL C-Tick CSA CCC
IP degree of protection	IP20
Pollution degree	2 conforming to EN/IEC 60947-4-2
Vibration resistance	1 gn (f= 13…150 Hz) conforming to EN/IEC 60068-2-6 1.5 mm peak to peak (f= 3…13 Hz) conforming to EN/IEC 60068-2-6
Shock resistance	15 gn for 11 ms conforming to EN/IEC 60068-2-27
Relative humidity	5…95 % without condensation or dripping water conforming to EN/IEC 60068-2-3

Ambient air temperature for operation	-10…40 °C (without) 40…50 °C (with current derating of 2 % per °C)
Ambient air temperature for storage	-25…70 °C conforming to EN/IEC 60947-4-2
Operating altitude	<= 1000 m without > 1000 m with current derating of 2.2 % per additional 100 m

Offer Sustainability

REACh Regulation	REACh Declaration
REACh free of SVHC	Yes
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
Toxic heavy metal free	Yes
Mercury free	Yes
RoHS exemption information	Yes
China RoHS Regulation	China RoHS declaration
Circularity Profile	End of Life Information
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

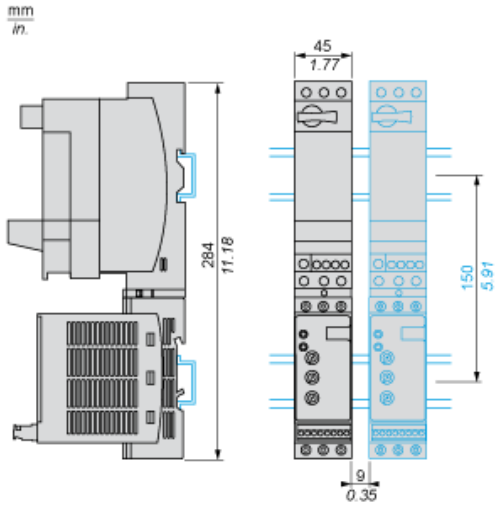
Contractual warranty

Warranty	18 months

Dimensions

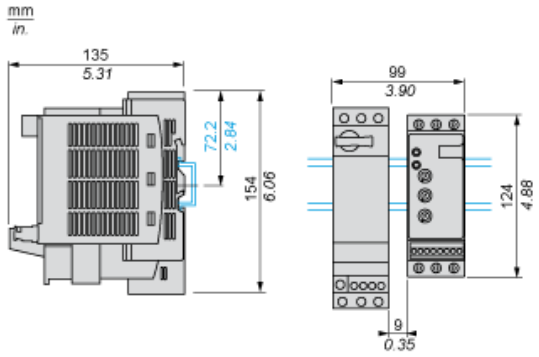
With TeSys U Combination (Non Reversing Power Base)

Mounting on symetrical (35 mm) rail with power connector between ATS and TeSys U.

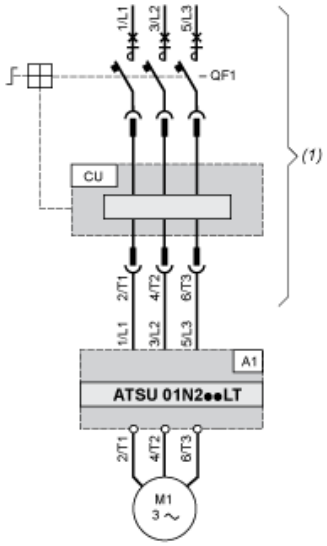


With TeSys U Combination (Non Reversing or Reversing Power Base)

Side by side mounting

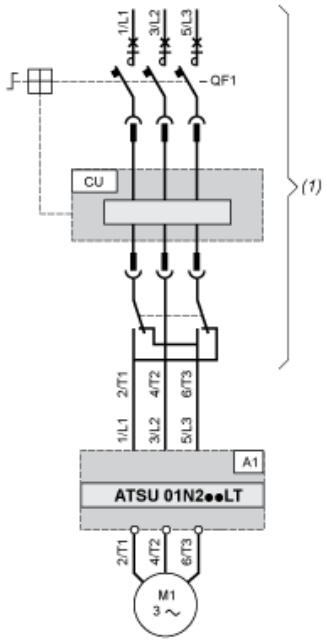


Power Wiring



(1) TeSys U
A1 : Soft start/soft stop unit
QF1 : TeSys U controller-starter
CU : TeSys U control unit

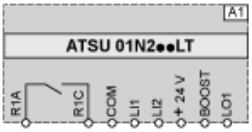
With Reversing Unit



(1) TeSys U with reversing unit
A1 : Soft start/soft stop unit
QF1 : TeSys U controller-starter
CU : TeSys U control unit

ATSU01N209LT

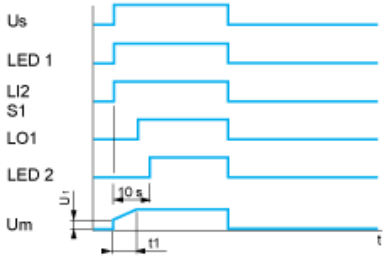
Control Wiring



A1 : Soft start/soft stop unit
R1A, R1C Relay output NO
COM : Commun
LI1, LI2 : Logic inputs (stop and run functions)
BOOST : Logic input (boost on start-up function)
LO1 : Logic output

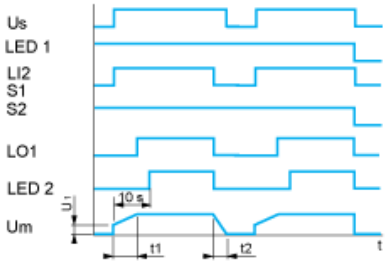
Functional Diagram Automatic 2-wire Control

Without Deceleration



Us : Power supply voltage
LED 1 : Green LED
LI2 : Logic input
S1 : Pushbutton
LED 2 : Yellow LED
Um : Motor voltage
t1 : Acceleration time can be controlled by a potentiometer
U1 : Starting time can be controlled by a potentiometer

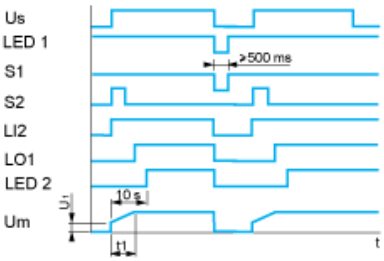
With and without Deceleration



Us : Power supply voltage
LED 1 : Green LED
LI2 : Logic input
S1, S2 : Pushbuttons
LO1 : Logic output
LED 2 : Yellow LED
Um : Motor voltage
t1 : Acceleration time can be controlled by a potentiometer
t2 : Deceleration time can be controlled by a potentiometer
U1 : Starting time can be controlled by a potentiometer

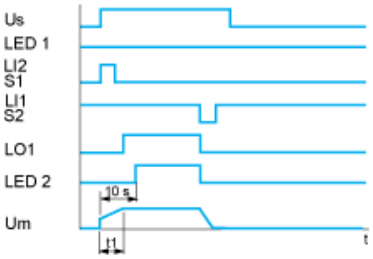
Functional Diagram Automatic 3-wire Control

Without Deceleration



Us : Power supply voltage
LED 1 : Green LED
S1, S2 : Pushbuttons
LI2 : Logic input
LO1 : Logic output
LED 2 : Yellow LED
Um : Motor voltage
t1 : Acceleration time can be controlled by a potentiometer
U1 : Starting time can be controlled by a potentiometer

With Deceleration



Us : Power supply voltage
LED 1 : Green LED
S1, S2 : Pushbuttons
LI1, LI2 : Logic inputs
LO1 : Logic output
LED 2 : Yellow LED
Um : Motor voltage
t1 : Acceleration time can be controlled by a potentiometer