

ATSU01N222LT

soft starter for asynchronous motor - ATSU01 - 22 A
- 200..480 V - 4..11 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	11 kW 3 phases 400 V 4 kW 3 phases 230 V 7.5 kW 3 phases 400 V 5.5 kW 3 phases 230 V
Motor power hp	5 hp 3 phases 230 V 7.5 hp 3 phases 230 V 10 hp 3 phases 460 V 15 hp 3 phases 460 V
IcL starter rating	22 A
Utilisation category	AC-53B EN/IEC 60947-4-2
Current consumption	100 mA
Type of start	Start with voltage ramp
Power dissipation in W	2.5 W at full load and at end of starting 222.5 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	Adjustable from 1 to 10 s 1 s 100 10 s 10 5 s 20
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 < 5 V and <= 0.2 mA > 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 6...30 V open collector logic
Minimum switching current	10 mA 6 V DC relay outputs
Maximum switching current	2 A 30 V DC inductive cos phi = 0.5 20 ms relay outputs 2 A 250 V AC AC-15 inductive cos phi = 0.5 20 ms relay outputs
Maximum switching voltage	440 V relay outputs
Display type	1 LED green starter powered up 1 LED yellow nominal voltage reached

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Tightening torque	0.5 N.m 1.9...2.5 N.m
Electrical connection	4 mm screw clamp terminal rigid 1 1...10 mm ² AWG 8 power circuit Screw connector rigid 1 0.5...2.5 mm ² AWG 14 control circuit 4 mm screw clamp terminal rigid 2 1...6 mm ² AWG 10 power circuit Screw connector rigid 2 0.5...1 mm ² AWG 17 control circuit Screw connector flexible with cable end 1 0.5...1.5 mm ² AWG 16 control circuit 4 mm screw clamp terminal flexible without cable end 1 1.5...10 mm ² AWG 8 power circuit Screw connector flexible without cable end 1 0.5...2.5 mm ² AWG 14 control circuit 4 mm screw clamp terminal flexible with cable end 2 1...6 mm ² AWG 10 power circuit 4 mm screw clamp terminal flexible without cable end 2 1.5...6 mm ² AWG 10 power circuit Screw connector flexible without cable end 2 0.5...1.5 mm ² AWG 16 control circuit
Marking	CE
Operating position	Vertical +/- 10 degree
Height	314 mm
Width	45 mm
Depth	170 mm
Product weight	0.49 kg
Power range	7...11 kW at 380...440 V 3 phases 4...6 kW at 200...240 V 3 phases
Motor starter type	Soft starter

Environment

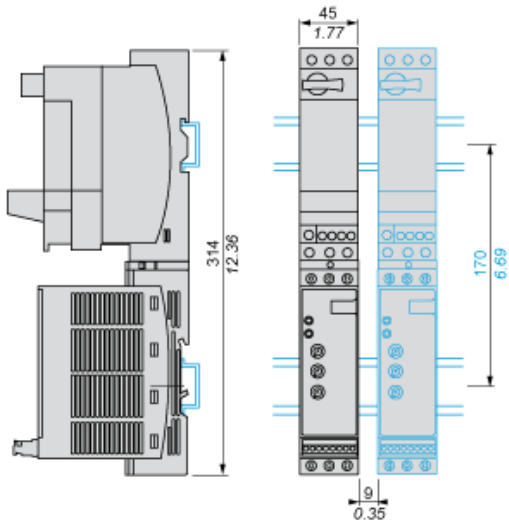
electromagnetic compatibility	EMC immunity EN 50082-1 Damped oscillating waves level 3 IEC 61000-4-12 Electrostatic discharge level 3 IEC 61000-4-2 Immunity to electrical transients level 4 IEC 61000-4-4 Immunity to radiated radio-electrical interference level 3 IEC 61000-4-3 Voltage/current impulse level 3 IEC 61000-4-5 Conducted and radiated emissions level B CISPR 11 Conducted and radiated emissions level B IEC 60947-4-2 EMC immunity EN 50082-2 Harmonics IEC 1000-3-2 Harmonics IEC 1000-3-4 Conducted and radiated emissions level 3 IEC 61000-4-6 Immunity to conducted interference caused by radio-electrical fields IEC 61000-4-11
standards	EN/IEC 60947-4-2
product certifications	CCC CSA C-Tick UL
IP degree of protection	IP20
pollution degree	2 EN/IEC 60947-4-2
vibration resistance	1.5 mm peak to peak 3...13 Hz EN/IEC 60068-2-6 1 gn 13...150 Hz EN/IEC 60068-2-6
shock resistance	15 gn 11 ms EN/IEC 60068-2-27
relative humidity	5...95 % without condensation or dripping water EN/IEC 60068-2-3
ambient air temperature for operation	-10...40 °C without derating 40...50 °C with current derating of 2 % per °C
ambient air temperature for storage	-25...70 °C EN/IEC 60947-4-2
operating altitude	<= 1000 m without derating > 1000 m with current derating of 2.2 % per additional 100 m

Dimensions

With TeSys U Combination (Non Reversing Power Base)

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

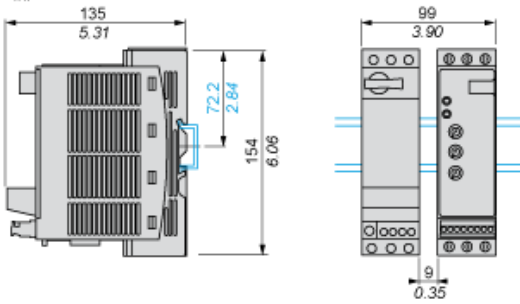
mm
in.



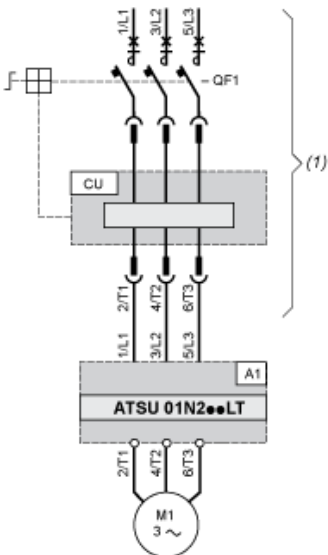
With TeSys U Combination (Non Reversing or Reversing Power Base)

Side by side mounting

mm
in.



Power Wiring



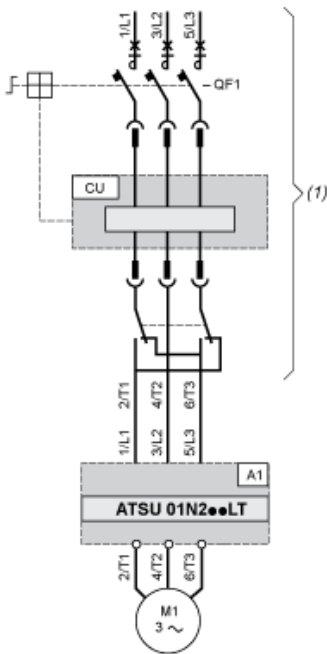
(1) TeSys U

A1 : Soft start/soft stop unit

QF1 : TeSys U controller-starter

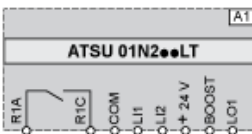
CU : TeSys U control unit

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

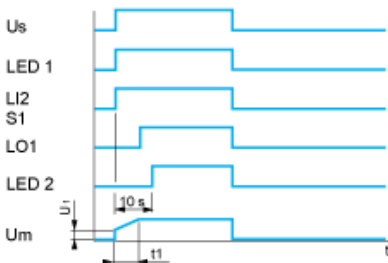
Control Wiring



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

Functional Diagram Automatic 2-wire Control

Without Deceleration

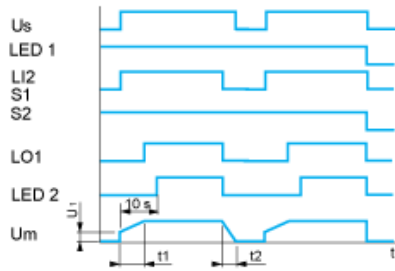


- Us : Power supply voltage
 LED Green LED
 1 :
 LI2 : Logic input
 S1 : Pushbutton
 LED Yellow LED
 2 :
 Um :Motor voltage

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 Green LED

1 :

LI2 : Logic input

S1, Pushbuttons

S2 :

LO1 :Logic output

LED Yellow LED

2 :

Um :Motor volage

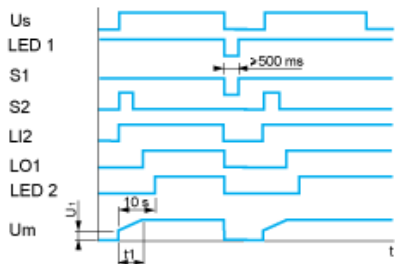
t1 : Acceleration time can be controlled by a potentiometer

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 Green LED

1 :

S1, Pushbuttons

S2 :

LI2 : Logic input

LO1 :Logic output

LED Yellow LED

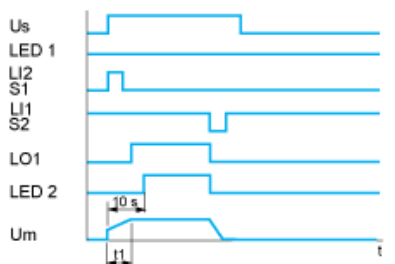
2 :

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 Green LED

1 :

S1, Pushbuttons

S2 :

LI1, Logic inputs

LI2 :

LO1 :Logic output

LED Yellow LED

2 :

Um :Motor voltage

t1 : Acceleration time can be controlled by a potentiometer