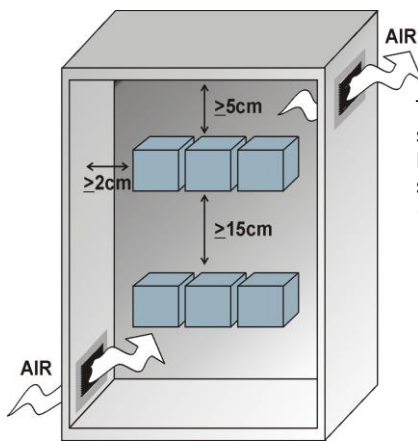


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1 Mounting



Caution: Check that no liquids, dust or conductive objects can fall into the starter.

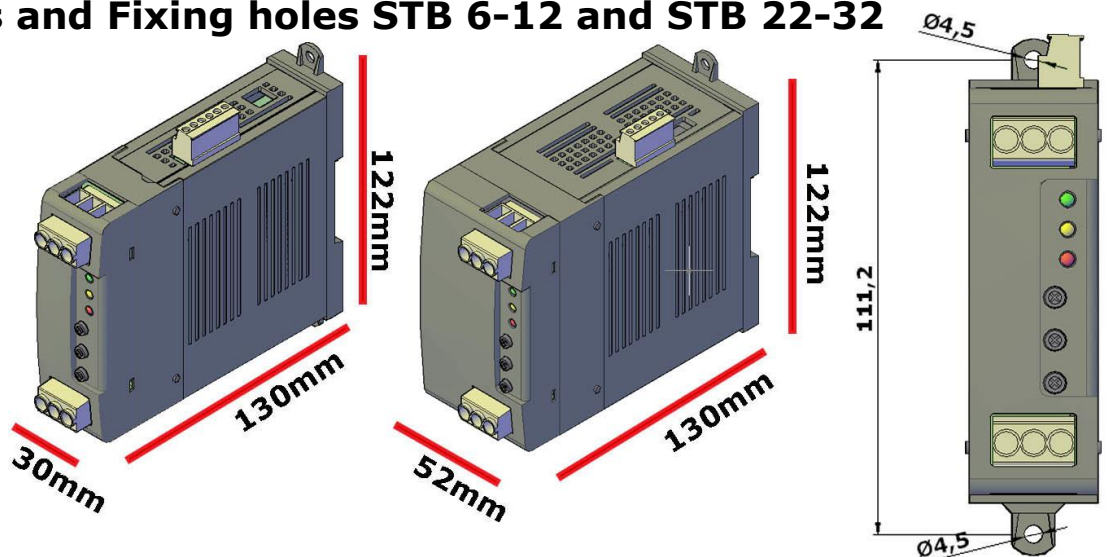
The STB Soft Starter must be mounted vertically, allow sufficient space above and below the starter for suitable airflow.

Do not mount the starter near other heat sources. Surrounding air temperature in the cabinet should not exceed 40°C, the starter is rated to operate over a temperature range of 0°C to +40°C.

1.1 Environment

Ambient temperature	0°C to +40°C
Storage temperature	-25°C to +70°C
Installation place	Don't install at direct sun light, where there are conductive dust, corrosive gas, vibration or water and also in salty environmental.
Altitude	Up to 1000 meter over sea level. For higher altitude reduce the nominal current of 2% for each 100m over 1000m
Humidity	From 5 to 95% without condense and ice

1.2 Dimensions and Fixing holes STB 6-12 and STB 22-32



2 Technical Data

Selection Table

6A	12A	22A	32A	Line Voltage	Ramp Time	Kick Start(ms) at 70%	Initial Torque
STB006 2xxx	STB 012 20x0	STB 022 20x0	STB 032 20x0	208-240V AC Max	0,6-15 Sec	0-100-200-300	0-80%
STB006 4xxx	STB 012 40x0	STB 022 40x0	STB 032 40x0	400-480V AC Max	0,6-15 Sec	0-100-200-300	0-80%

Technical Data

Model Code	STB006	STB012	STB022	STB032
Operational Max Current	6A AC3	12A AC3	22A AC3	32A AC3
Max Start Current	18A	36A	66A	96A
Leakage Current	10 mA	10 mA	10 mA	10 mA
Minimum working current	100mA	100mA	100mA	100mA
Start/Hour	20	10	15	10
Motor ratings 240V	1,6 HP / 1,2Kw	3,2 HP / 2,3Kw	5,8 HP / 4,2Kw	8,4 HP / 6,1Kw
Motor ratings 480V	3,2 HP / 2,3Kw	6,3 HP / 4,6Kw	11,6 HP / 8,4 Kw	16,8 HP / 12.3Kw

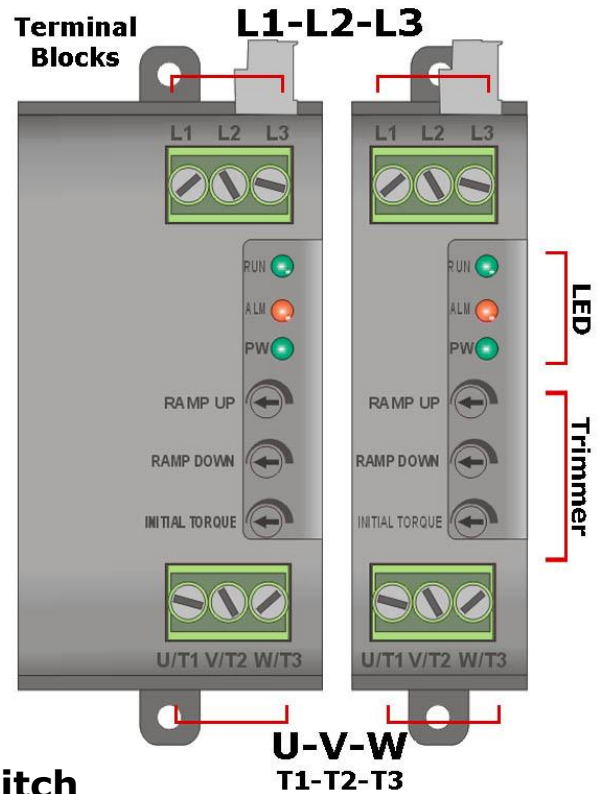
Digital Input Voltage Range	24VDC max
Relay Output	500mA 125V max
Control Current	20mA
Response time max	200 mSec max

3 Connections

Warning: Before connecting or disconnecting the unit check that power and control cables are isolated from voltage sources.

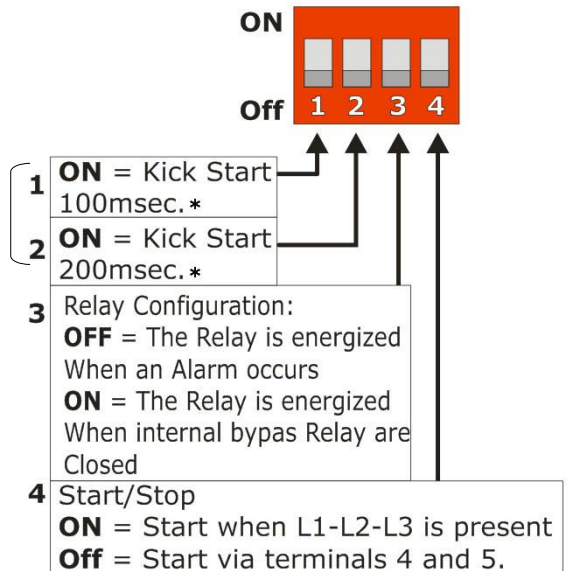
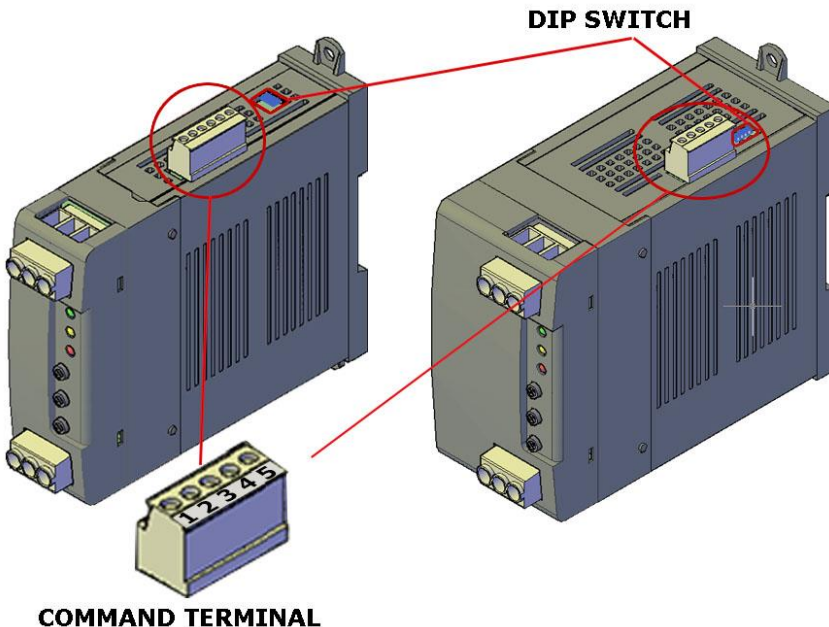
Tightening torque, min 0.5 Nm - max 0.6 Nm
Conductor section max. 6 mm² - AWG 10

Terminal	Description
L1	Line Input Phase 1
L2	Line Input Phase 2
L3	Line Input Phase 3
U/T1	Motor Output Phase U
V/T2	Motor Output Phase V
W/T3	Motor Output Phase W



3.1 Command Terminals and Dip Switch


Warning: Before connecting or disconnecting the unit check that power and control cables are isolated from voltage sources.

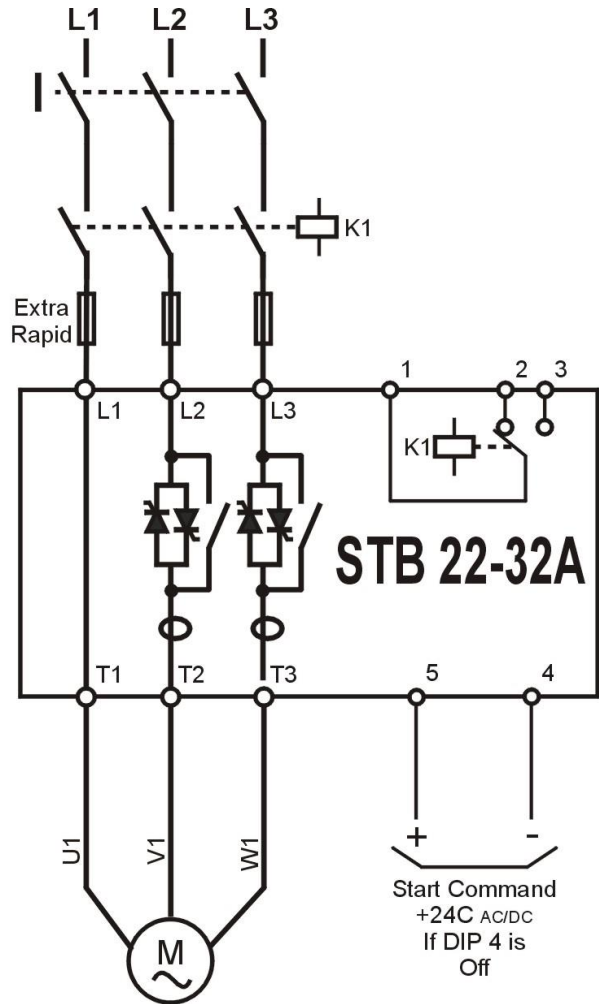
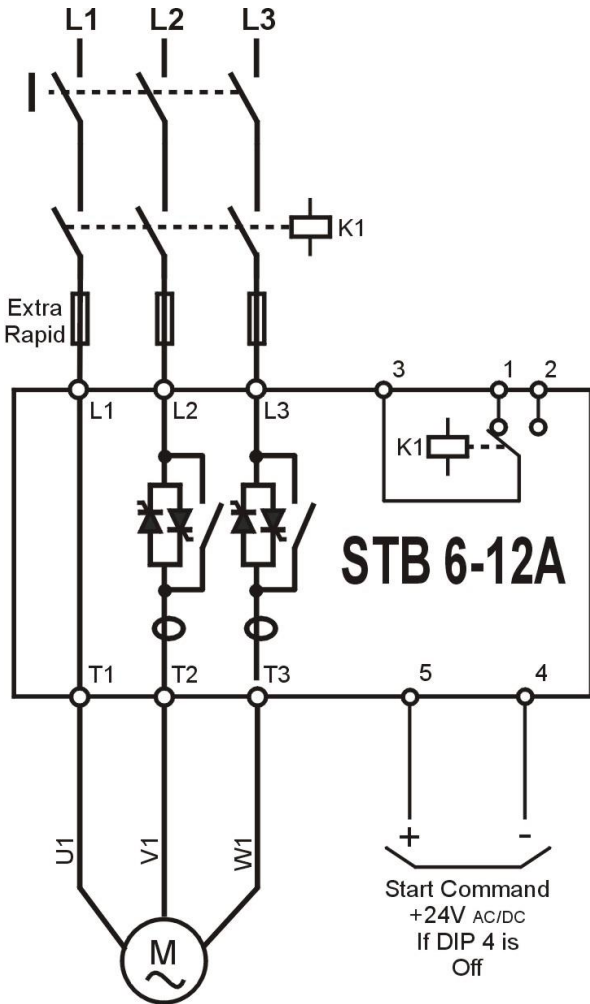


*If switch 1 and 2 are ON kick Start is 300msec. if both Off is 0 mSec.

Command	Description STB 6-12A	STB 22-32A
1	Output relay (Max 500mA, 125Vac) NC	Common Relay Output C
2	Output relay (Max 500mA, 125Vac) NO	Output relay (Max 500mA, 125Vac) NC
3	Common Relay Output C	Output relay (Max 500mA, 125Vac) NO
4	GND for digital Input	GND for digital Input
5	Digital Input: Start/Stop (4 to 24V AC/DC)	Digital Input: Start/Stop (4 to 24V AC/DC)

3.2 Diagram of connection

 Caution: this procedure must be performed only by qualified persons



4 Digital Input

The STB Soft Starter has 1 digital inputs opto-isolated to 24Vdc. You can activate the inputs with an external source for example the PLC.

- **Start/Stop (Terminals 4-5)**

Normally Run and Stop are controlled by the logic input at the terminals 4-5:

a start is obtained with +24Vdc, and a stop is obtained when you remove the +24Vdc on the terminals, without the start command the output of the STB Soft Starter will return at zero following the down ramp set.

- **Alternative Start/Stop Control**

Otherwise you can use the Automatic Start Jumper (DIP 4 = ON). On power-up the motor will start Automatically. With this solution, the deceleration ramp is not used.

DIP4 Off = Normal Start (default)

DIP4 ON = Automatic Start.

5 Relay Output

The STB Soft Starter has 1 Relay output with free voltage contact (Max 500mA, 125Vac) – Terminals 1-2-3.

The Relay Output can be energized in two mode by **THE DIP Switch 3**

When it's in **Off** position the Relay is energized when an alarm occurs (ex. main line supply failure, motor connection Failure)

when it's in **ON** position the Relay is energized when internal bypass is closed.

6 Trimmers

The STB Soft Starter has 3 trimmers to set the SOFT STARTER to an optimal system performance according to the characteristics of each system.

- The **RAMP UP [0-15 sec.]** trimmer adjusts the inclination of the acceleration ramp, working on the time used to pass from initial voltage to the full voltage output (rotating the trimmer in clockwise sense, the acceleration time increases).
- The **RAMP DOWN [0-15 sec]** trimmer adjusts the inclination of the deceleration ramp, working on the time used to pass from the full voltage output to the initial voltage (rotating the trimmer in clockwise sense, the deceleration time increases). Rotating it completely in anticlockwise sense, the deceleration can be excluded.
- The **INITIAL TORQUE [0-80%]** trimmer adjusts the initial voltage applied to the motor, and so the starting torque (not linearly). It has to be tuned so that the motor starts running immediately, but pay attention because a too high setting avoids the SOFT effect.

7 Led status and Alarms

LED	STATUS	DESCRIPTION
RUN ●	Green ON SlowBlinking	Ready to Start
	Green ON Fast Blinking	Ramp Active
	Green ON	At Speed (full Voltage)
ALM ●	Red OFF	No Alarm
	Red ON	Critical Alarm active (motor not properly connected or one phase missing)
PW ON ●	Green OFF	The power supply is not connected or fault on the electronic board
	Green ON	The power supply on terminals L1 and L3 is OK

8 Order Code

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
S	T	B	-	-	-	-	-	-	-	-	-	-	-	-	-

CURRENT	4	5	6	OVERLOAD RELAY	10	MANUAL	15
description	code			description	code	description	code
6 Amp full load current (FLC)	0	0	6	No overload relay	0	None	0
12 Amp FLC	0	1	2	CONTROL MODE	11	Italian	1
22 Amp FLC	0	2	2	description	code	English	2
32 Amp FLC	0	3	2	Voltage control mode	V	German	3
MAIN SUPPLY VOLTAGE	7			Current control mode	I	French	4
description	code			OPTION & FUSE	12	Spanish	5
3x200V +10:-15%	2			description	code	VERSION	16
3x400V +10:-15%	4			No Fuses	0	description	code
VOLTAGE SUPPLY AUX.	8			External fuse & fuse holder	F	Standard version	1
description	code			FAN VOLTAGE	13		
No auxiliary voltage	0			description	code		
INPUT	9			No fan	0		
description	code			APPROVALS	14		
Start with power up	1			description	code		
Start/stop optoisolated + 24V	2			CE EMC	0		

STB 6-12 – STB 22-32 FULFILS THE REQUIREMENTS OF THE STANDARD:

Electrical safety Standard

EN60947-1 :2008

EN60947-4-3:2001

Generic Emission standard

EN60947-4-3:2000

Generic Immunity standard

EN60947-4-3:2000

Producers declares that The products above mentioned they am conforming to the directive **EMC 2004/108/CEE** e alla direttiva Bassa Tensione (low Voltage) **2006/95/CEE**

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