Stellar SR22 Series Compact Soft Starters

SR22 Soft Starters – O/L Trip Classes ①	
Default	5
Heavy	20
Agitator	10
Air Compressor - Equalized	5
Air Compressor - Loaded	20
Ball Mill	20
Centrifuge	n/a
Chiller	10B
Conveyor - Unloaded	5
* Conveyor - Loaded	20
Crusher	30
Escalator	10B
* Fan - Low Inertia < 85A	10
* Fan - High Inertia > 85A	30
Feeder - Screw	10
Grinder	20
Hammer Mill	20
Lathe Machine	10B
Mills - Flour, etc.	20
Mixer - Unloaded	5
Mixer - Loaded	20
Pelletizer	20
Plastic and Textile Machines	10B
Press - Flywheel	20
* Pump - Centrifugal	10B
* Pump - Positive Displacement - Unloaded	10
Rolling Mill	20
Saw - Band	10
Saw - Circular	20
Screen - Vibrating	20
Transformer, Voltage Regulator	10B
Tumbler	10
Wood Chipper	30
*** Commonly required applications**	

SR22 Soft Starter Selection

① Determine the required trip class based on the motor load and required start time.

② Select the applicable SR22 part number based on the required Trip Class and motor HP.

③ Check application duty rating. (Frequency of motor starts can be increased by installing an optional soft-starter cooling fan, SR22-FAN-xx.)

The standard range for the SR22 is Trip Class 5, which means that it is capable of withstanding three times Full Load Current for five-second starts. For applications where longer starts are required, the SR22 has four additional ratings: Class 10B, Class 10, Class 20, and Class 30. These ratings correspond to IEC thermal/electronic overload trip classes.

A separate overload protection device with a rating corresponding to the applicable trip class must be used with the SR22 soft starter.

SR22 Soft Starters – Selection Table ② *

Motor Horsepower			Application Trip Class				
HP @ 208V	HP @ 230V	HP @ 460V	Class 5**	Class 10B	Class 10	Class 20	Class 30***
1	1	3	SR22-05	SR22-07	SR22-09	SR22-12	SR22-16
1.5	2	3	SR22-07	SR22-09	SR22-12	SR22-16	SR22-22
3	3	5	SR22-12	SR22-22	SR22-30	SR22-36	SR22-40
3	3	7.5	SR22-12	SR22-22	SR22-30	SR22-36	SR22-40
3	5	10	SR22-16	SR22-22	SR22-30	SR22-40	SR22-40 + fan
5	7.5	15	SR22-22	SR22-30	SR22-40	SR22-40 + fan	n/a
7.5	10	20	SR22-30	SR22-40	SR22-40 + fan	n/a	n/a
10	10	25	SR22-36	SR22-40 + fan	n/a	n/a	n/a
10	15	30	SR22-40	n/a	n/a	n/a	n/a

*** A separate overload protection device with a rating corresponding to the applicable trip class must be used with the SR22.*

*** Do not use the Class 5 rating when there is a possibility of the motor starting under a heavy load.*

**** The SR22 is not suitable for very high inertia loads such as centrifuges or loaded crushers with start times > 30s.*

SR22 Soft Starters – Duty Rating ③ *

Cooling Fan	Motor Start Frequency (starts/hr)	
	Class 5	Class 10B to Class 30
without fan	10 / hr	5 / hr
with SR22-FAN-xx	60 / hr	30 / hr

*** @ 40 °C [104 °F] ambient temperature*

SR22 Internal Overcurrent Trip Curve

The internal overcurrent trip of the soft starter does not replace the required external overcurrent device.

SR22 Max UL Overcurrent Protection

UL Maximum Overcurrent Protection Devices * for 5kA @ 480V Short Circuit Rating		
Soft Starter Model Number	Maximum Non-Time-Delay Trip Rating *	
	Fuse * – Class J or T (600V rated)	Circuit Breaker * (600V rated)
SR22-05	15A	N/A
SR22-07	15A	
SR22-09	30A	
SR22-12	40A	
SR22-16	50A	
SR22-22	80A	80A
SR22-30	100A	100A
SR22-36	125A	125A
SR22-40	150A	150A

*** Maximum trip ratings are for non-time-delay overcurrent protection devices.*

*** Motor branch circuit protection must be based on MOTOR Full Load Current, and must comply with applicable local electrical codes. The 2008 NEC section 430.52 recommends a maximum of 175% (up to 225% absolute maximum) of motor FLC for time-delay fuses. (Class CC time-delay fuses are permitted up to the non-time-delay fuse maximum rating.)*