

# STELLAR<sup>®</sup> SR55 SOFT STARTER QUICK-START GUIDE



 AUTOMATIONDIRECT.com



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**SAFETY****IMPORTANT INFORMATION**

Installers should read and understand the instructions in this guide prior to installing, operating, and maintaining the SR55 soft starter.

The following symbols may appear in this guide or on the soft starter to warn of potential hazards or to draw attention to certain information.

**DANGEROUS VOLTAGE**

INDICATES THE PRESENCE OF A HAZARDOUS VOLTAGE WHICH COULD RESULT IN PERSONAL INJURY OR DEATH.

**TENSION DANGEREUSE**

INDIQUE LA PRÉSENCE D'UNE TENSION DANGEREUSE QUI PEUT ENTAÎNER DES BLESSURES OU LA MORT.

**WARNING/CAUTION**

INDICATES A POTENTIAL HAZARD. ANY INSTRUCTIONS THAT FOLLOW THIS SYMBOL SHOULD BE OBEYED TO AVOID POSSIBLE DAMAGE TO THE EQUIPMENT, AND PERSONAL INJURY OR DEATH.

**AVERTISSEMENT/MISE EN GARDE**

INDIQUE UN DANGER POTENTIEL. TOUTES LES INSTRUCTIONS SUIVANT CE SYMBOLE DOIVENT ÊTRE OBSERVÉES, AFIN D'ÉVITER LES DOMMAGES DE L'ÉQUIPEMENT ET LES BLESSURES OU LA MORT.

**PROTECTIVE EARTH (GROUND)**

INDICATES A TERMINAL WHICH IS INTENDED FOR CONNECTION TO AN EXTERNAL CONDUCTOR FOR PROTECTION AGAINST ELECTRIC SHOCK IN CASE OF A FAULT.

**MISE À LA TERRE (MASSE)**

INDIQUE UNE BORNE DONT L'USAGE PRÉVU EST D'ÊTRE CONNECTER À CONDUCTEUR EXTERNE POUR ASSURER LA PROTECTION CONTRE LES CHOCS ÉLECTRIQUES EN CAS DE DÉFAUTS.

**CAUTION STATEMENTS**

The examples and diagrams in this manual are included solely for illustrative purposes. The information contained in this manual is subject to change at any time and without prior notice. In no event will responsibility or liability be accepted for direct, indirect or consequential damages resulting from the use or application of this equipment.

**MISES EN GARDE**

Les exemples et les schémas de ce manuel ne sont donnés qu'à titre illustratif. Les informations présentées dans ce manuel peuvent être modifiées sans avis préalable.

En aucun cas nous n'assumons la responsabilité ou l'obligation pour les dommages directs, indirects ou consécutifs qui résultent de l'utilisation ou application de cet équipement.

**SHORT CIRCUIT**

SR55 soft starters are not short circuit proof. After severe overload or short circuit, the operation of the soft start should be fully tested by an authorized service agent.

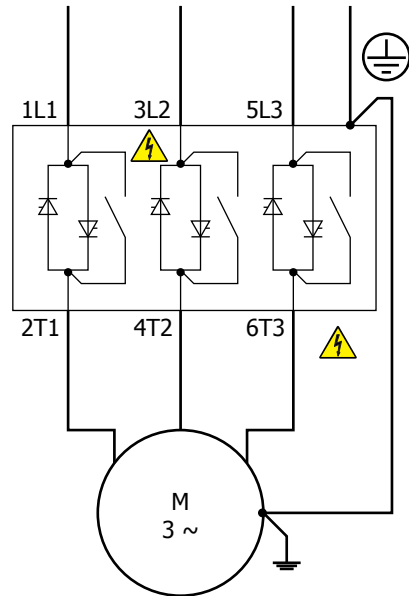
**COURT-CIRCUIT**

Les démarreurs progressifs SR55 ne sont pas à l'épreuve des courts-circuits. Après une forte surcharge ou un court-circuit, le fonctionnement du démarreur progressif doit être intégralement vérifié par un agent de maintenance agréé.

## SAFETY (CONTINUED)



- SR55 soft starters contain dangerous voltages when connected to the mains supply. Only qualified personnel that have been completely trained and authorized, should carry out installation, operation and maintenance of this equipment.
- Les démarreurs progressifs SR55 contiennent des tensions dangereuses, lorsqu'ils sont connectés à la tension secteur. Les activités d'installation, d'utilisation et d'entretien de cet équipement doivent être effectuées par un personnel qualifié, dûment formé et habilité.
- Installation of the soft start must be made in accordance with existing local and national electrical codes and regulations and have a minimum protection rating.
- Le démarreur progressif doit être installé conformément au code local et nationale d'électricité et à la réglementation en vigueur, et il doit avoir un indice de protection minimal.
- It is the responsibility of the installer to provide suitable grounding and branch circuit protection in accordance with local electrical safety codes.
- Il appartient à l'installateur d'assurer la mise à la terre et la protection du circuit de branchement, conformément au code de sécurité électrique local.
- This soft starter contains no serviceable or re-usable parts (other than cooling fans and external communication options).
- Ce démarreur progressif ne contient pas de pièces réparables ou réutilisables.
- The STOP function of the soft starter does not isolate dangerous voltages from the output of the soft start. An approved electrical isolation device must be used to disconnect the soft start from the incoming supply before accessing electrical connections.
- La fonction STOP du démarreur progressif n'isole pas les tensions dangereuses en sortie du démarreur progressif. Avant d'accéder aux raccordements électriques, il faut utiliser un dispositif d'isolation électrique approuvé pour déconnecter le démarreur progressif de la tension d'entrée.



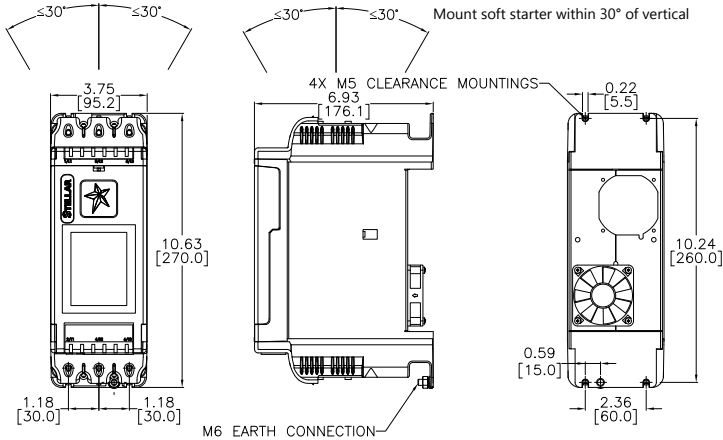
**WARNING: THE SR55 SOFT STARTER DOES NOT ISOLATE INCOMING VOLTAGE. A SEPARATE ISOLATION DEVICE (CONTACTOR) MUST BE SUPPLIED AHEAD OF THE SOFT STARTER.**

ENVIRONMENTAL – INSTALLATION

DIMENSIONS ( IN [MM] )

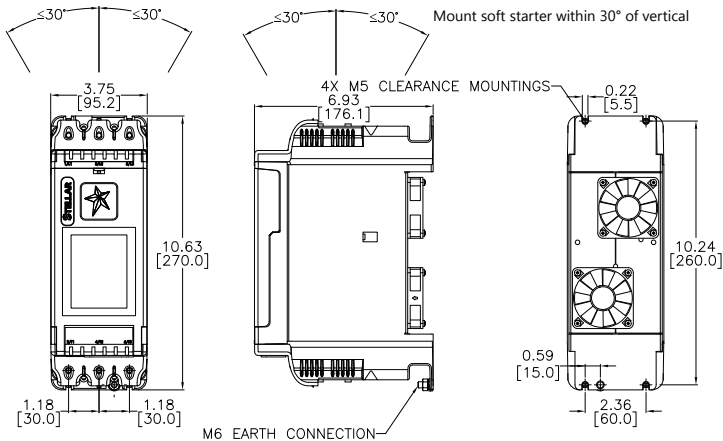
FRAME SIZE 1: SR55-017 – SR55-027

<b>Weight</b>	6.6 lb [3.0 kg]		
<b>Minimum Clearance Distance</b>	Top	3in	
	Bottom	[75mm]	
	Left	1in	
	Right		[25mm]
	Front		



FRAME SIZE 1: SR55-034 – SR55-096

<b>Weight</b>	7.7 lb [3.5 kg]		
<b>Minimum Clearance Distance</b>	Top	3in	
	Bottom	[75mm]	
	Left	1in	
	Right		[25mm]
	Front		

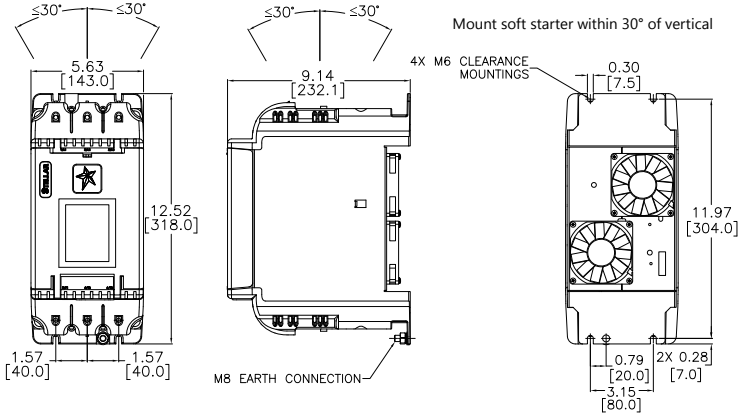


## ENVIRONMENTAL – INSTALLATION (CONTINUED)

### DIMENSIONS ( IN [MM] )

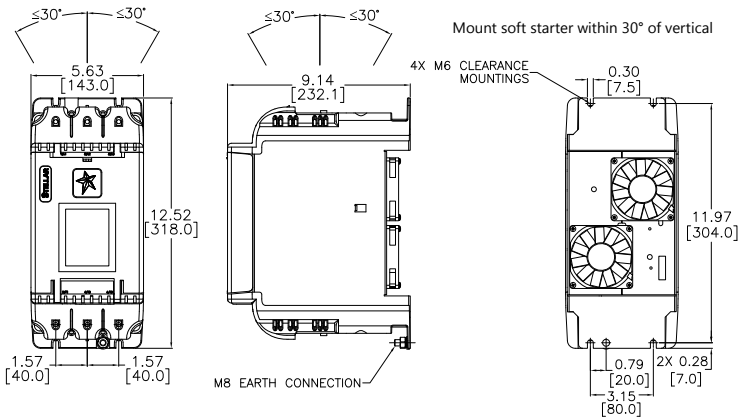
#### FRAME SIZE 2: SR55-124

<b>Weight</b>	12.1 lb [5.5 kg]	
<b>Minimum Clearance Distance</b>	Top	3.9 in [100mm]
	Bottom	
	Left	1.6 in [40mm]
	Right	
	Front	



#### FRAME SIZE 2: SR55-156 – SR55-180

<b>Weight</b>	14.3 lb [6.5 kg]	
<b>Minimum Clearance Distance</b>	Top	3.9 in [100mm]
	Bottom	
	Left	1.6 in [40mm]
	Right	
	Front	

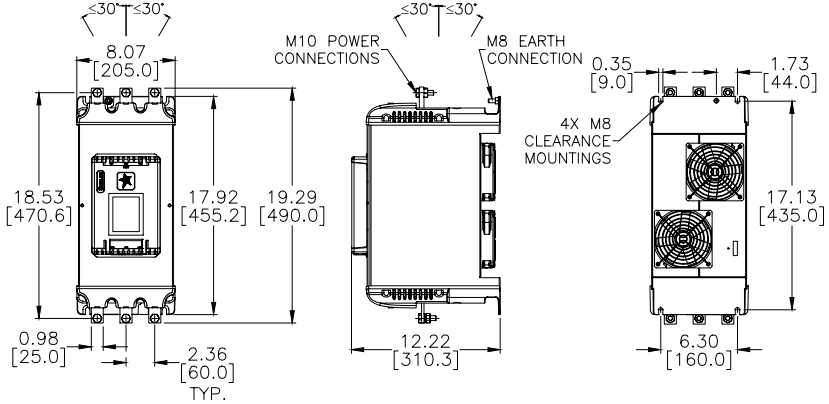


ENVIRONMENTAL – INSTALLATION (CONTINUED)

DIMENSIONS ( IN [MM] )

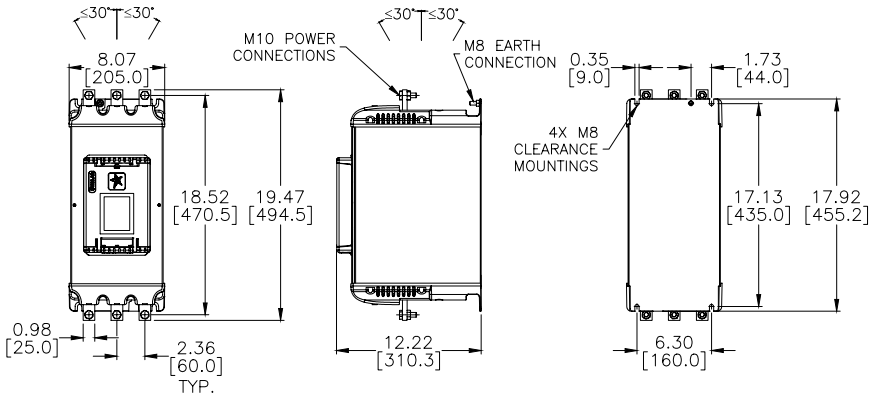
FRAME SIZE 3: SR55-242 – SR55-361

<b>Weight</b>	35.3 lb [16.0 kg]	
<b>Minimum Clearance Distance</b>	Top	4.9 in [125mm]
	Bottom	
	Left	2.4 in [60mm]
	Right	
	Front	1 in [25mm]



FRAME SIZE 3: SR55-414 – SR55-477

<b>Weight</b>	46.7 lb [21.2 kg]	
<b>Minimum Clearance Distance</b>	Top	4.9 in [125mm]
	Bottom	
	Left	2.4 in [60mm]
	Right	
	Front	1 in [25mm]



## ENVIRONMENTAL – INSTALLATION (CONTINUED)

### ENCLOSURE VENTILATION

WHEN FITTING SR55 INTO AN ENCLOSURE, VENTILATION MUST BE PROVIDED IF THE HEAT OUTPUT OF THE UNIT IS GREATER THAN THE ENCLOSURE WILL DISSIPATE. USE THE FOLLOWING FORMULA TO DETERMINE THE FAN REQUIREMENT. AN ALLOWANCE HAS BEEN INCORPORATED INTO THE FORMULA SO THAT THE FIGURE FOR Q IS THE AIR DELIVERY IN THE FAN SUPPLIERS DATA.

THE MAXIMUM POWER DISSIPATION OCCURS DURING ENERGY SAVING. HEAT DISSIPATED CAN BE APPROXIMATED WITH THE FORMULA:

$$\text{WATTS (SR55)} = 1/2 \times (\text{SR55 CURRENT RATING}) \times 3$$



### VENTILATION INTÉRIEURE

LORSQUE SR55 EST INSTALLÉ DANS UNE ARMOIRE, IL FAUT ASSURER SA VENTILATION, SI LA CHALEUR PRODUITE DE L'UNITÉ EST PLUS IMPORTANT QUE LA CAPACITÉ DE DISSIPATION DE L'ARMOIRE.

UTILISER LA FORMULE SUIVANTE POUR DÉTERMINER LA DEMANDE DE VENTILATEUR. UNE TOLÉRENCE A ÉTÉ INCORPORÉ DANS LA FORMULE, AINSI LA FIGURE DONNÉE DANS Q EST LE DÉBIT D'AIR INDIQUÉ DANS LES DONNÉES DU FOURNISSEUR DU VENTILATEUR. LA PUISSANCE MAXIMALE DE DISSIPATION EST ATTEINT EN MODE ÉCONOMIE D'ÉNERGIE. LA CHALEUR DISSIPÉE PEUT ÊTRE ESTIMÉE PAR LA FORMULE SUIVANTE:

$$\text{WATTS (SR55)} = 1/2 \times (\text{COURANT NOMINAL SR55}) \times 3$$

$$Q = (4 \times W_t) / (T_{\max} - T_{\text{amb}})$$

Q = Volume of air (cubic meters per hour - m<sup>3</sup>/h)

W<sub>t</sub> = Heat produced by the unit and all other heat sources within the enclosure (Watts)

T<sub>max</sub> = Maximum permissible temperature within the enclosure  
(50°C for a fully rated SR55)

T<sub>amb</sub> = Temperature of the air entering the enclosure (°C)  
(If you prefer to work in CFM, substitute °F for °C. Q is now in CFM)

Q = quantité d'air (mètre cube par heure – m<sup>3</sup>/h)

W<sub>t</sub> = Chaleur produite par l'unité et toutes autres sources de chaleur dans l'armoire (Watts)

T<sub>max</sub> = Température maximale admissible dans l'armoire  
(50°C pour SR55 en puissance maximale)

T<sub>amb</sub> = Température de l'air entrant dans l'armoire (°C)  
(Pour calculer en CFM, remplacer °C par °F. Ainsi Q est en CFM.)



WIRING CONNECTION

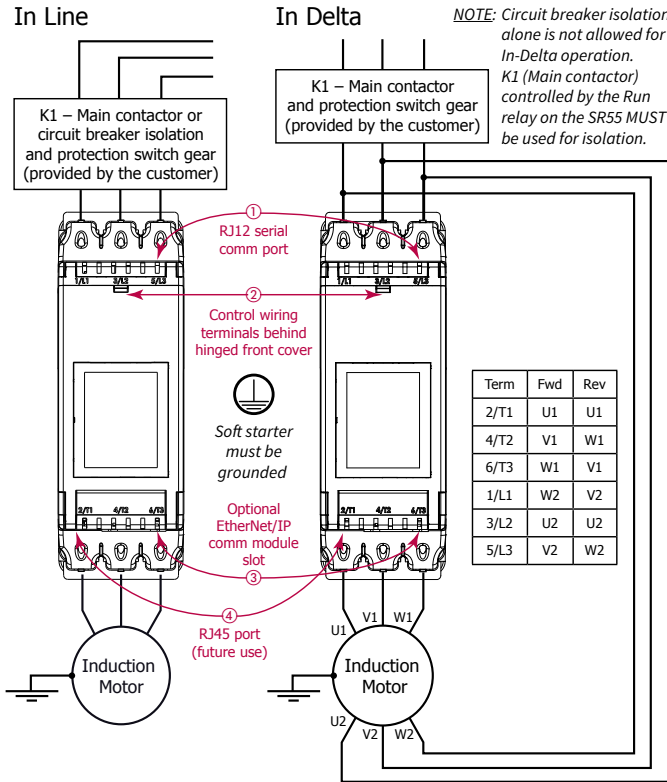
Required Rating	Program- mable	Default	Description	Representative of terminal label. See TABLE 1, U <sub>1</sub> for AC supply rating as marked on actual SR55 model.	Description	Default	Program- mable	Required Rating
#1	-	-	Group 1 input common	⊖	group 1 relay common	-	-	-
#1	SEE TABLE 1, U <sub>c</sub>	start / stop	opto-coupled input	⊖	relay N/C	fault	yes	230VAC 1A AC15; 30VDC 0.5A Resistive
#1	SEE TABLE 1, U <sub>c</sub>	none	opto-coupled input	⊖	relay N/O	fault	yes	230VAC 1A AC15; 30VDC 0.5A Resistive
#2	-	-	Group 2 input common	⊖	group 2 relay common	-	-	-
#2	SEE TABLE 1, U <sub>c</sub>	reset	opto-coupled input	⊖	relay N/O	running	yes	230VAC 1A AC15; 30VDC 0.5A Resistive
-	-	-	not used	⊖	relay N/O	end of start	yes	230VAC 1A AC15; 30VDC 0.5A Resistive
-	3 x PTC in series (130°C)	OFF	thermistor	⊖	analog output	0-10V	yes	0 to 10V 10mA / 4-20mA
-	3 x PTC in series (130°C)	OFF	thermistor	⊖	analog 0V	-	-	0V
-	-	-	signal ground	⊖	analog input	0-10V	yes	0 to 10V 10mA / 4-20mA
#3	SEE TABLE 1, U <sub>3</sub>	-	control supply	⊖	control supply	-	-	SEE TABLE 1, U <sub>3</sub>
#3	SEE TABLE 1, U <sub>3</sub>	-	control supply	⊖	control supply	-	-	SEE TABLE 1, U <sub>3</sub>

24VDC. Specifications: 24VDC 60W; Residual ripple 100mV; Spikes/switching Peaks 240mV; Turn On/Off response; No overshoot of V<sub>out</sub>; Overvoltage voltage protection output voltage must be clamped to <30Vdc  
 SR55-017 to SR55-361 Control Power Consumption 60W  
 SR55-414 to SR55-477 Control Power Consumption 120W

Model No(s)	U <sub>c</sub> (+10% -15%)		Notes
	U <sub>1</sub> (+10% -15%)	U <sub>2</sub> (+10% -15%)	
SR55-017 to SR55-361	110 - 230 Vac or 24 Vdc	110Vac or 230Vac or 24Vdc. 230Vac factory default. #4	The system can have either a 110/230Vac mains or 24Vdc input. NOT both. Le système peut avoir soit une alimentation principale de 110/230 Vac ou de 24 Vdc, mais en aucun cas les deux simultanément.
SR55-414 to SR55-477	110 Vac	230Vac défaut. d'usine. #4	

Notes	
#1	The programmed digital input setting on D1COM, D1-I, D1-2I must correspond to the voltage applied to these terminals to avoid risk of damage to the equipment. Afin d'éviter d'endommager l'équipement, le réglage de l'entrée numérique programmée sur D1COM, D1-I, D1-2I doit correspondre à la tension appliquée à ces bornes.
#2	The programmed digital input setting on D2COM, D2-I must correspond to the voltage applied to these terminals to avoid risk of damage to the equipment. Afin d'éviter d'endommager l'équipement, le réglage de l'entrée numérique programmée sur D2COM, D2-I doit correspondre à la tension appliquée à ces bornes.
#3	The control supply can be 110 to 230VAC applied to the N, L terminals or 24VDC applied to the 0VDC, 24V input terminals. The correct voltage as specified must only be applied to one of these supply inputs to avoid risk of damage to the equipment. L'alimentation contrôle peut être 110 à 230 VCA, appliquée aux bornes N et L, ou 24 VCC, appliquée aux bornes d'entrée de 0 VCC, 24 V. Afin d'éviter d'endommager l'équipement, la tension appropriée selon les indications ne doit être appliquée qu'à une entrée d'alimentation.
#4	Refer to SR55 Programming Manual SR55-M-WO for factory default settings. Référez au la Manuel de l'utilisateur SR55-SR55-M-WO pour des paramètres par défaut d'usine.

## WIRING CONNECTION (CONTINUED)



For suitable short circuit protection devices (SCPDs), see Short Circuit Protection in the Technical Information / Standards section of this guide.

*Pour un dispositif de protection approprié contre le court-circuit, voir la protection contre le court-circuit dans la section « Informations techniques / normes » du présent guide.*



For wire size and torque requirements, see Technical Information / Standards section of this guide.

*Pour les dimensions de câble et les besoins en couple, voir la section « Informations techniques / normes » du présent guide.*



### In Delta

For this configuration applying the equation.  $SR55 I_e = I_e(\text{motor}) / \sqrt{3}$  Allows lower current rated SR55 than the motor. When In-Delta configuration is used, a line contactor controlled by the SR55 MUST be used with the In-Delta Firing Mode selected in the advanced menu.

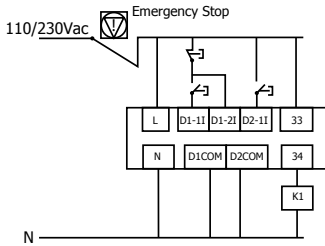


### En Delta

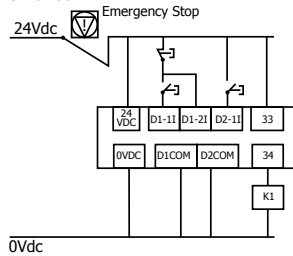
*Pour cette configuration, appliquer l'équation suivante :  $SR55 I_e = I_e(\text{moteur}) / \sqrt{3}$  Cela permet le courant nominal inférieur de SR55 par rapport au moteur. Lorsque En Delta configuration est utilisée, IL FAUT utiliser un sectionneur principal contrôlé par SR55, En Delta mode de fonctionnement, sélectionné dans le menu avancé.*

**WIRING CONNECTION (CONTINUED)**

3-Wire Control Diagram  
110/230Vac control supply (U<sub>s</sub>)  
and digital input (U<sub>c</sub>) programming



3-Wire Control Diagram  
24Vdc control supply (U<sub>s</sub>) and  
digital input (U<sub>c</sub>) programming  
(only applicable for SR55-017 to SR55-361)



**Digital Input Programming**

- D1-11 = Start
- D1-21 = Stop
- D2-11 = Reset

REFER TO TABLE 1 ON PAGE 9 FOR INPUT CONTROL VOLTAGES. THESE RECOMMENDED WIRING DIAGRAMS ARE SPECIFICALLY WHERE THE CONTROL SUPPLY VOLTAGE (U<sub>s</sub>) IS IDENTICAL TO THE CONTROL CIRCUIT VOLTAGE (U<sub>c</sub>), AND NOT TO BE SUPPLIED SEPARATELY. OTHER WIRING CONFIGURATIONS MUST ALSO BE IN ACCORDANCE WITH EXISTING LOCAL AND NATIONAL CODES AND REGULATIONS.



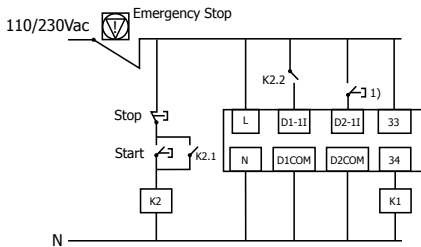
RÉFÉRER AU TABLEAU 1 À LA PAGE 9 POUR DES TENSIONS DE CONTRÔLE D'ENTRÉE. CES SCHEMAS DE CÂBLAGE SONT RECOMMANDÉES SPÉCIFIQUEMENT LORSQUE LA TENSION D'ALIMENTATION DE COMMANDE (U<sub>s</sub>) EST IDENTIQUE À LA TENSION DU CIRCUIT DE COMMANDE (U<sub>c</sub>). U<sub>s</sub> ET U<sub>c</sub> NE DOIVENT PAS ÊTRE ALIMENTÉS SÉPARÉMENT. TOUTES LES CONFIGURATIONS DE CÂBLAGE DOIVENT ÉGALEMENT ÊTRE EN CONFORMITÉ AVEC LES CODES ET LES RÈGLEMENTS LOCAUX ET NATIONAUX EN VIGUEUR.

POWER FACTOR CORRECTION CAPACITORS\* MUST NOT BE POSITIONED BETWEEN THE SOFT STARTER AND THE MOTOR, OR THERE IS A RISK OF DAMAGING THE THYRISTORS DUE TO CURRENT PEAKS.

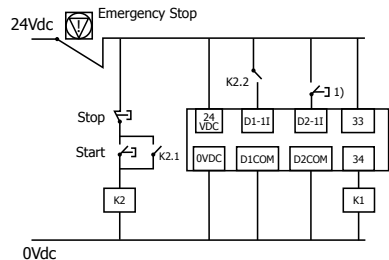


LES CONDENSATEURS D'AMÉLIORATION DU FACTEUR DEPUISSANCE NE DOIVENT PAS ÊTRE MONTÉS ENTRE LE DÉMARREUR PROGRESSIF ET LE MOTEUR, PARCE QUE LES POINTES DE COURANT RISQUENT À ENDOMMAGER LES THYRISTORS.

110/230Vac (U<sub>s</sub>) and (U<sub>c</sub>) user  
programmable control diagram



24Vdc (U<sub>s</sub>) and (U<sub>c</sub>) user programmable control  
diagram (only applicable for SR55-017 to SR55-361)



**User programmable inputs are fully programmable**

- D1-11 = High Start / Low Stop
- D1-21 = None
- D2-11 = High Reset

1) Optional high reset. If this reset is required, ensure “User Programmable” is selected in the control method menu found in the Digital Inputs menu. If you would prefer the reset to work by removing and reapplying the Start Signal on D1-11 then select “Two wire control” in the control method menu.

\*NOTE: POWER FACTOR CORRECTION CAPACITORS (PFCs)

IN SOME CASES CAN REDUCE A FACILITY'S KVAR CHARGES. DETERMINING THE NEED FOR, AND LOCATION OF, PFCs SHOULD BE PERFORMED BY A QUALIFIED ENGINEER (FROM YOUR UTILITY COMPANY OR A POWER QUALITY ENGINEERING FIRM). PFCs CANNOT BE LOCATED BETWEEN THE SR55 AND THE MOTOR.



## PROGRAMS

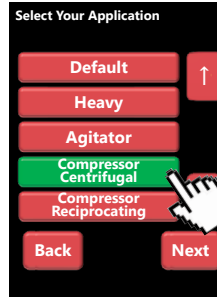
### 1. Setup Wizard



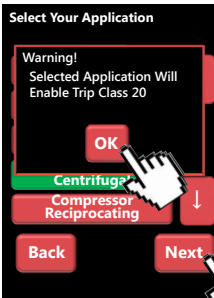
Please note:  
"Setup Wizard" screen #1 appears only once; on the initial power-up of the SR55 soft starter. Screen #8 will be the first screen displayed for subsequent start-ups. Press "Home," and then "Auto Setup" to access screen #2.



### 2. Select Your Application



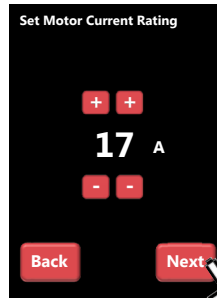
### 3. Select Your Application



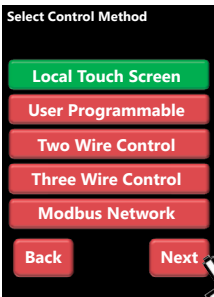
Please note:  
Only appears if application with a trip class higher than 10 is selected



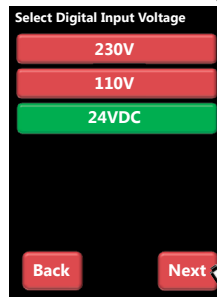
### 4. Set Motor Current Rating



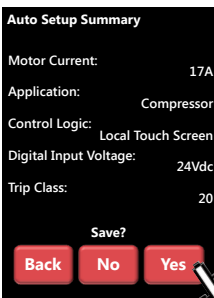
### 5. Select Control Method



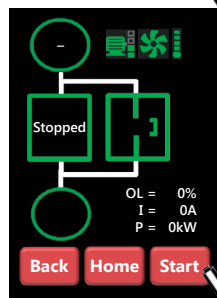
### 6. Select Digital Input Voltage



### 7. Auto Setup Summary



### 8.



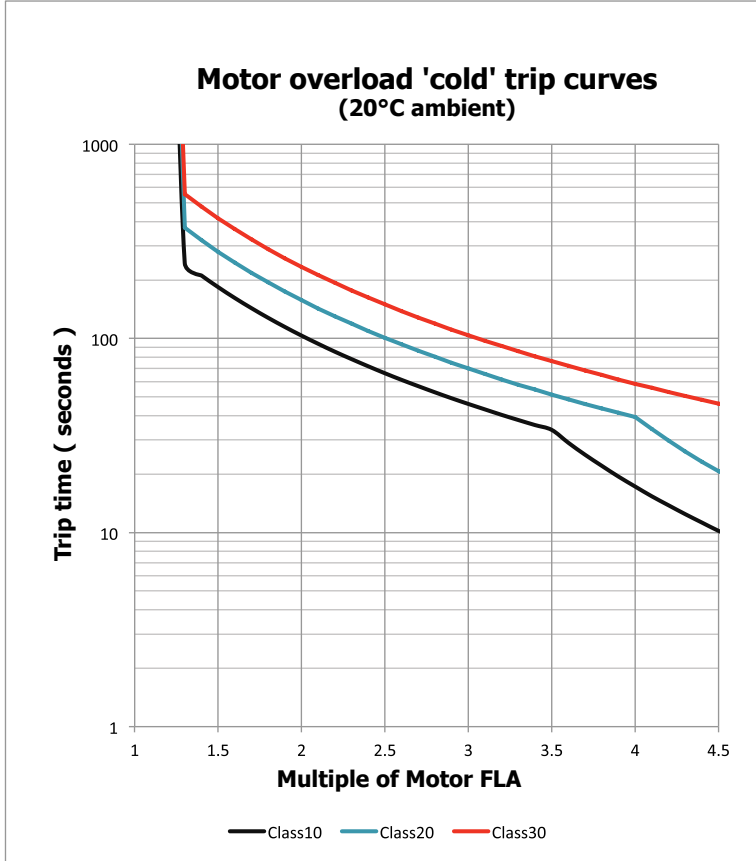
**RATINGS TABLE**

SR55 Soft Starter Electrical Ratings										
Frame Size	Type	UL FLA A <sup>3)</sup>	HP <sup>1)</sup>				IEC I <sub>e</sub> A <sup>4)</sup>	kW <sup>2)</sup>		U <sub>s</sub> (control supply voltage)
			200V	208V	220-240V	440-480V		230V	400V	
1	SR55-017	17	3	5	5	10	17	4	7.5	24VDC or 110VAC to 230VAC
	SR55-021	21	5	5	5	15	22	5.5	11	
	SR55-027	27	7.5	7.5	7.5	20	29	7.5	15	
	SR55-034	34	10	10	10	25	35	7.5	18.5	
	SR55-040	40	10	10	10	30	41	11	22	
	SR55-052	52	15	15	15	40	55	15	30	
	SR55-065	65	20	20	20	50	66	18.5	37	
	SR55-077	77	20	25	25	60	80	22	45	
SR55-096	96	30	30	30	75	100	30	55		
2	SR55-124	124	40	40	40	100	132	37	75	
	SR55-156	156	50	50	60	125	160	45	90	
	SR55-180	180	60	60	60	150	195	55	110	
3	SR55-242	242	75	75	75	200	242	75	132	
	SR55-302	302	100	100	100	250	302	90	160	
	SR55-361	361	125	125	150	300	361	110	200	
	SR55-414	414	150	150	150	350	430	132	250	
	SR55-477	477	150	150	150	400	500	150	280	

1) Rated operational powers in hp according to UL508 corresponding to FLA current rating.  
 2) Rated operational powers in kW according to IEC 60072-1 (primary series) corresponding to IEC current rating.  
 3) The UL FLA rating applies for a maximum surrounding air temperature of 50°C [122°F].  
 4) The IEC I<sub>e</sub> rating will apply for EN 60947-4-2 max rating index up to 195A: AC-53a: 3.5-17: 90-5 and 242A-500A: AC-53a: 3.5-17: 90-3.

TECHNICAL INFORMATION

MOTOR OVERLOAD COLD TRIP CURVES



TECHNICAL INFORMATION/STANDARDS

SR55 Technical Information and Standards			
<b>Rated Operational Voltages</b>	$U_e$	200VAC to 480VAC	
<b>Rated Operational Current</b>	$I_e$	See model ratings table	
<b>Rating Index</b>		SR55-017 to -180	$I_e$ : AC-53a: 3.5-17: 90-5
		SR55-242 to -477	$I_e$ : AC-53a: 3.5-17: 90-3
<b>Rated Frequency</b>		50 to 60Hz	
<b>Rated Duty</b>		Uninterrupted	
<b>IEC 60947-4-2 Form Designation</b>		Form 1 internally bypassed	
<b>Rated Insulation Voltage</b>	$U_i$	480V	
<b>Rated Impulse Withstand Voltage</b>	$U_{imp}$	Main circuit	4kV
		Control supply circuit	2.5 kV
<b>IP Code</b>		Main AC line/load circuit	IP00 (IP20 for frame sizes 1&2 only with optional finger guards SR55-FG-x)
		Supply and control circuit	IP20
<b>Pollution Degree</b>		2	
<b>Rated conditional short-circuit current and type of co-ordination with associated short-circuit protective device (SCPD).</b>		Type 1 co-ordination. See short circuit protection table for rated conditional short-circuit current and required current rating and characteristics of the associated SCPD.	
<b>Rated Control Circuit Voltage (programmable)</b>	$U_C$	24VDC, 110VAC or 230VAC	Protect with 4A UL Listed fuse
<b>Rated Control Supply Voltage</b>	$U_S$	See Rating table, 2 Amp supply (continuous).	
<b>Relay Specification</b>		AC-15 230VAC, 1A DC-13 30VDC, 0.7A	
<b>EMC Emission Levels</b>	<b>EN 55011</b>	Class A <sup>1)</sup>	
<b>EMC Immunity Levels</b>	<b>IEC 61000-4-2</b>	8kV/air discharge or 4kV/contact discharge	
	<b>IEC 61000-4-3</b>	10 V/m	
	<b>IEC 61000-4-4</b>	2kV/5kHz (main power and ports)	
		1kV/5kHz (signal ports)	
	<b>IEC 61000-4-5</b>	2kV line-to-ground	
		1kV line-to-line	
<b>IEC 61000-4-6</b>	10V		
<b>Humidity</b>		Max. 85% non-condensing, not exceeding 50% at 40°C	
1) NOTICE: This product has been designed for environment A. Use of this product in environment B may cause unwanted electromagnetic disturbances, in which case the user may be required to take adequate mitigation measures.			

## STANDARDS

### TEMPERATURE RANGE

-4°F (-20°C) to 122°F (50°C); above 50°C derate linearly by 4% of SR55 I<sub>e</sub> per °C to a maximum of 140°F (60°C).


### ALTITUDE RANGE

Maximum altitude above sea level: 1000m (3281ft); above 1000m derate by 1% of SR55 I<sub>e</sub> per 100m (328ft) to a maximum altitude of 2000m (6562ft).

### AGENCY APPROVALS

All SR55 models are CE, REACH, and RoHS compliant, and are listed to UL508. SR55 models -017 through -477 bear the ETL listing mark, and are ETL UL508 and CSA C22.2 No. 14 listed to U.S. and Canadian safety standards respectively.

### WIRE SIZES AND TORQUES

Wire Sizes and Torques						
Terminal		Models	Wire Size		Torque	
			mm <sup>2</sup>	AWG	N·m	lb·in
Main Terminals Cu STR 75°C Only	Terminal	SR55-017 to SR55-096	2.5–70	12–2/0	9	80
		SR55-124 to SR55-180	4–185	12–350 MCM	14	123
	M10 bolt	SR55-242 to SR55-361	2 x 95	2 x 2/0		
		SR55-414 to SR55-477	2 x 150	2 x 350 MCM		
Control Terminals		all models	0.2–1.5	24–16	0.5	4.5
 Protective Ground <sup>1)</sup> Cu Only	M6 stud	SR55-017	≥ 4	≥ 12	8	70
		SR55-021 to SR55-052	≥ 6	≥ 10		
		SR55-065 to SR55-096	≥ 10	≥ 8		
	M8 stud	SR55-124 to SR55-180	≥ 16	≥ 6	12	105
		SR55-242	≥ 25	≥ 4		
		SR55-302 to SR55-361	≥ 35	≥ 3		
		SR55-414 to SR55-477	≥ 35	≥ 2		

<sup>1)</sup> Protective Ground wire size based on bonding conductor requirements of UL508 and UL508A and CSA C22.No.14.



**SHORT CIRCUIT PROTECTION**

SR55 Short-Circuit Protection											
SR55 Model Number			SR55 -017	SR55 -021	SR55 -027	SR55 -034	SR55 -040	SR55 -052	SR55 -065	SR55 -077	SR55 -096
<b>Rated Operational Current</b>	$I_e$	(A)	17	22	29	35	41	55	66	80	100
<b>Class J Time-Delay Fuse #1</b>	<b>Maximum Rating <math>Z_1</math></b>	(A)	30	40	50	60	70	100	125	150	175
<b>Semiconductor Fuse (class aR) #2</b>	<b>Type</b>		Mersen 6,9 URD 30xx Bussmann 170M30xx Bussmann 170M31xx Bussmann 170M32xx SIBA 20 61xx								
	<b>Rating</b>	(A)	100	100	160	160	160	200	200	250	315
<b>UL Listed Inverse Time-Delay Circuit Breaker #1</b>	<b>Rating <math>Z_2</math></b>	(A)	60	60	60	60	60	150	150	250	300
<b>Rated Conditional Short-Circuit Current</b>	$I_q$	(kA)	5	5	5	5	5	5	5	10	10
SR55 Model Number			SR55 -124	SR55 -156	SR55 -180	SR55 -242	SR55 -302	SR55 -361	SR55 -414	SR55 -477	-
<b>Rated Operational Current</b>	$I_e$	(A)	132	160	195	242	302	361	430	500	
<b>Class J Time-Delay Fuse #1</b>	<b>Maximum Rating <math>Z_1</math></b>	(A)	225	300	350	450	500	500	600	600	
<b>Semiconductor Fuse (class aR) #2</b>	<b>Type</b>		Mersen 6,9 URD 31xx Bussmann 170M40xx Bussmann 170M41xx Bussmann 170M42xx SIBA 20 61xx			Mersen 6,9 URD 33xx Bussmann 170M60xx Bussmann 170M61xx Bussmann 170M62xx SIBA 20 63xx					
	<b>Rating</b>	(A)	400	550	550	700	800	900	1000	1100	
<b>UL Listed Inverse Time-Delay Circuit Breaker #1</b>	<b>Rating <math>Z_2</math></b>	(A)	350	450	500	700	800	1000	1000	1000	
<b>Rated Conditional Short-Circuit Current</b>	$I_q$	(kA)	10	10	10	18	18	18	18	18	
<p>#1 Suitable for use in a circuit capable of delivering not more than <math>I_q</math> rms Symmetrical Amperes, 480 Volts maximum, when protected by Class J time delay fuses with a maximum rating of <math>Z_1</math>, or by a circuit breaker with a maximum rating of <math>Z_2</math> as in this table.</p> <p>#2 Correctly selected semiconductor fuses can provide additional protection against damage to the SR55 unit (this is sometimes referred to as type 2 co-ordination). These semiconductor fuses are recommended to provide this increased protection.</p>											

SHORT CIRCUIT PROTECTION FOR 65KA

SR55 Short-Circuit Protection											
SR55 Model Number			SR55-017	SR55-021	SR55-027	SR55-034	SR55-040	SR55-052	SR55-065	SR55-077	SR55-096
Rated operational	$I_e$	A	17	22	29	35	41	55	66	80	100
Rated conditional short circuit current	$I_q$	kA	65	65	65	65	65	65	65	65	65
Class J time-delay fuse #1	Maximum rating Z1	A	25	30	40	45	60	70	80	100	125
UL Listed inverse-time delay- circuit breaker #1	Maximum rating Z2	A	60	60	60	60	60	100	100	-	-
SR55 Model Number			SR55-124	SR55-156	SR55-180	SR55-242	SR55-302	SR55-361	SR55-414	SR55-477	-
Rated operational	$I_e$	A	132	160	195	242	302	361	430	500	-
Rated conditional short circuit current	$I_q$	kA	65	65	65	65	65	65	65	65	
Class J time-delay fuse #1	Maximum rating Z1	A	175	200	250	350	400	450	600	600	
UL Listed inverse-time delay- circuit breaker #1	Maximum rating Z2	A	-	-	-	450	450	450	600	600	
#1 Suitable for use in a circuit capable of delivering not more than $I_q$ rms Symmetrical Amperes, 480 Volts maximum, when protected by Class J time delay fuses with a maximum rating of Z1 or by a circuit breaker with a maximum rating of Z2 as in this table.											



## QUICK-START GUIDE

**Electric current! Danger to life!**

Only skilled or instructed persons may carry out the operations.

**Tension électrique dangereuse!**

Seules les personnes qualifiées et averties doivent exécuter les travaux ci-après.