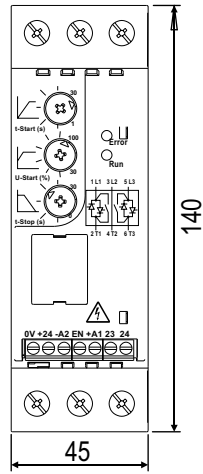
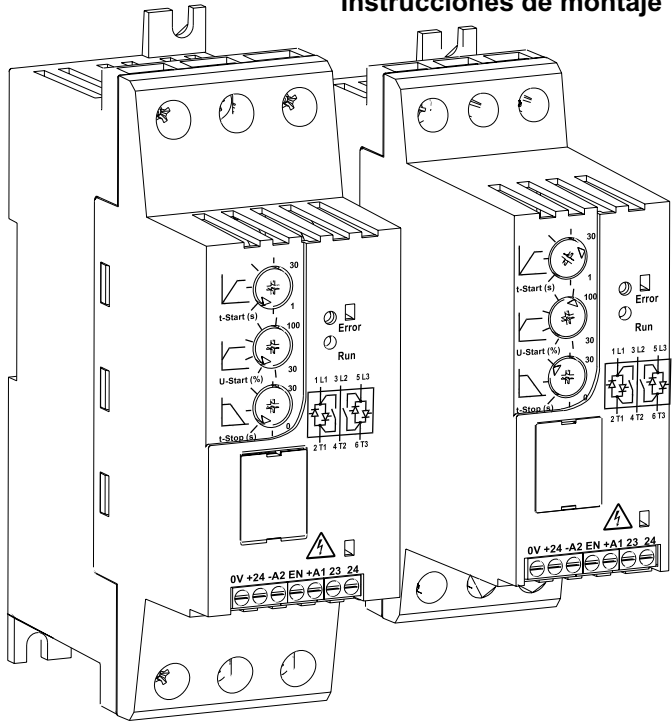


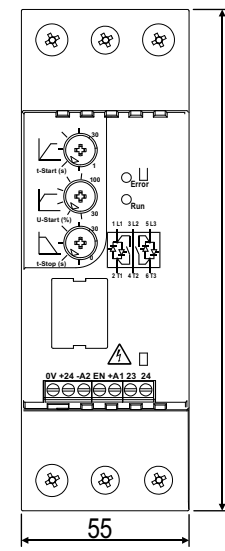
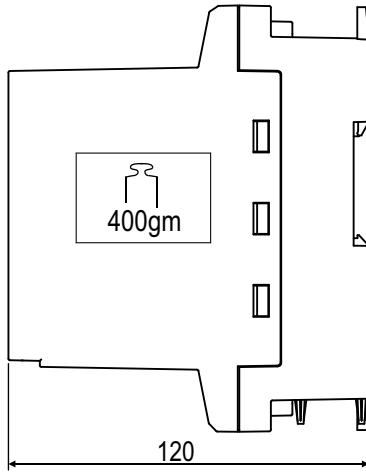
# VMX-PFE Digital Soft Starters

MAN-PFE-006

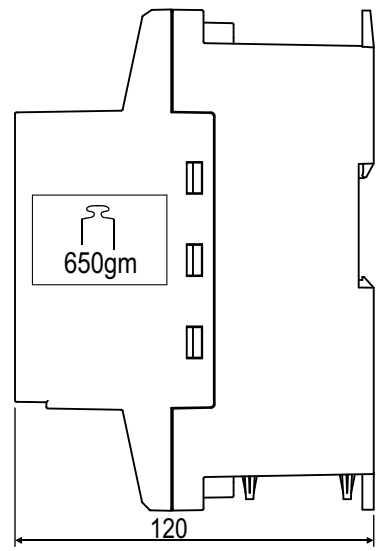
**Installation Instructions**  
**Montageanweisung**  
**Notice d'installation**  
**Istruzioni per il montaggio**  
**Instrucciones de montaje**



Mounting Centres 30mm x 130mm



Mounting Centres 40mm x 155mm



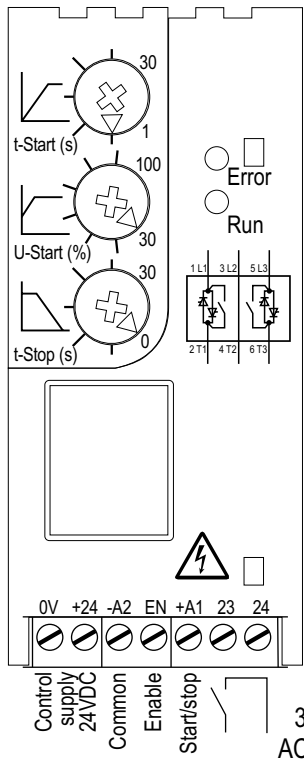
This device is suitable for use in industrial environments. EN 55011/22 Class A  
 Das Gerät ist für den industriellen Einsatz geeignet EN 55011/22 Klasse A.  
 L'appareil a été conçu pour l'emploi en milieu industriel EN 55011/22 classe A.  
 L'apparecchio è adatto per uso in ambienti industriali EN 55011/22 Classe A.  
 El aparato es adecuado para uso en ambiente industrial EN 55011/22 clase A.

### Size1 5Amp to 16Amp

VMX-PFE-02	2.2kW @ 400V 5Amp
VMX-PFE-04	3kW @ 400V 7Amp
VMX-PFE-06	4kW @ 400V 9Amp
VMX-PFE-08	5.5kW @ 400V 12Amp
VMX-PFE-10	7.5kW @ 400V 16Amp

### Size2 22Amp to 41Amp

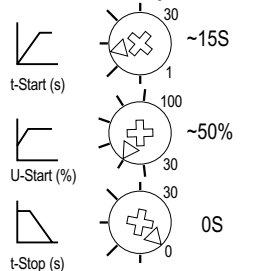
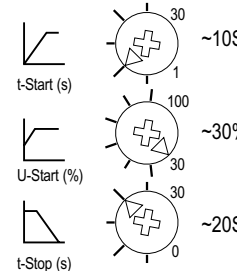
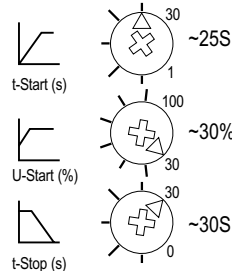
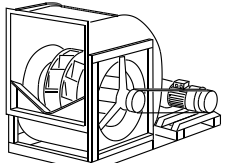
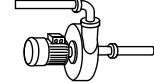
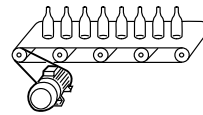
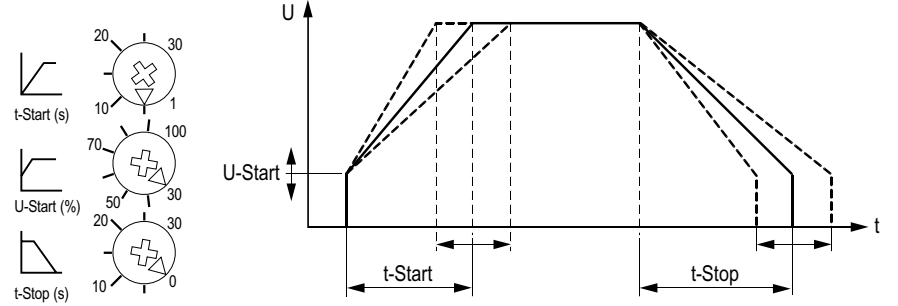
VMX-PFE-12	11kW @ 400V 22Amp
VMX-PFE-14	15kW @ 400V 30Amp
VMX-PFE-16	18.5kW @ 400V 36Amp
VMX-PFE-18	22kW @ 400V 41 Amp (Non UL)
VMX-PFE-18	30HP @ 480V FLA 40A (UL)



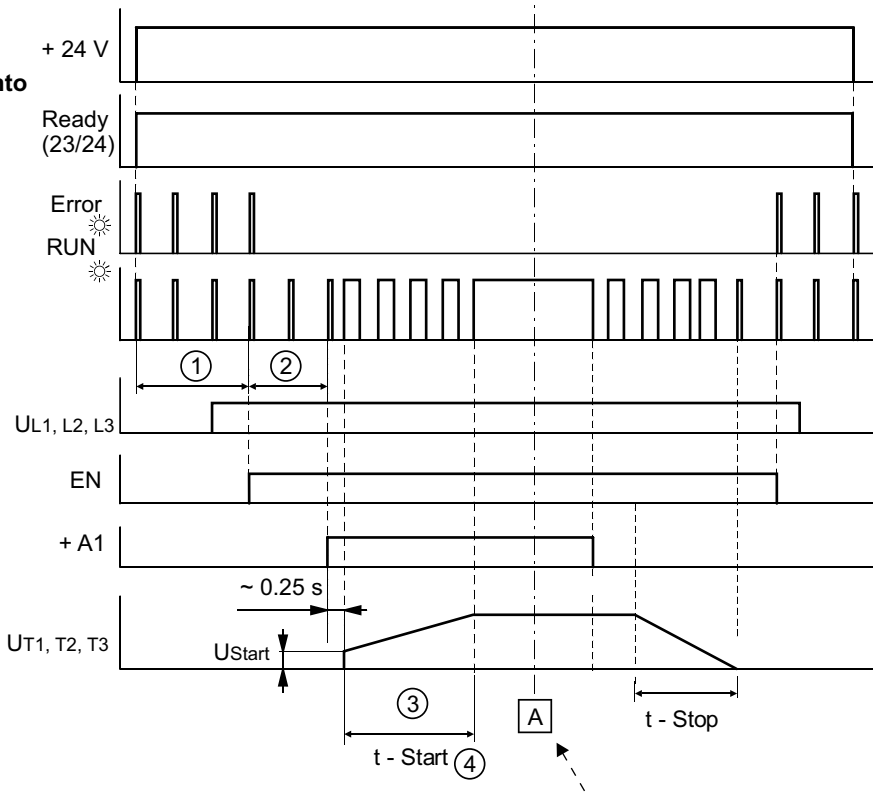
- Not Enabled** LED green+red - LED grün+rot - DEL vert+rouge - LED verde+rosso - LED verde+rojo  
Slow Flash Initialisation - Initialisierung - Initialisation - Inizializzazione - Inicialización
- Run** LED green - LED grün - DEL vert - LED verde - LED verde  
Slow Flash Ready for operation - Betriebsbereit - Prêt à fonctionner - Pronto al funzionamento - En condiciones para funcionamiento
- Quick Flash** Starting - in Rampe - en rampe - in rampa - en rampa
- Full On** Full volts - vollen Spannung - pleine tension - piena tensione - plena tensión
- Quick Flash** Soft-Stop - Soft stop - Arrêt progressif - Soft-Stop - Paro suave

Very quick green flash:- Starting to trip on over current

- Error** Fault LED red - Fehler LED rot - DEL erreur rouge - LED errore rosso - LED error rojo
- 1 SCR or supply
- 2 Too hot
- 3 Control supply low volts
- 4 Bypass relay failure
- 5 Shearpin (4.4 x l e)
- 6 Overcurrent



### Operation - Betrieb - Service - Funzionamento

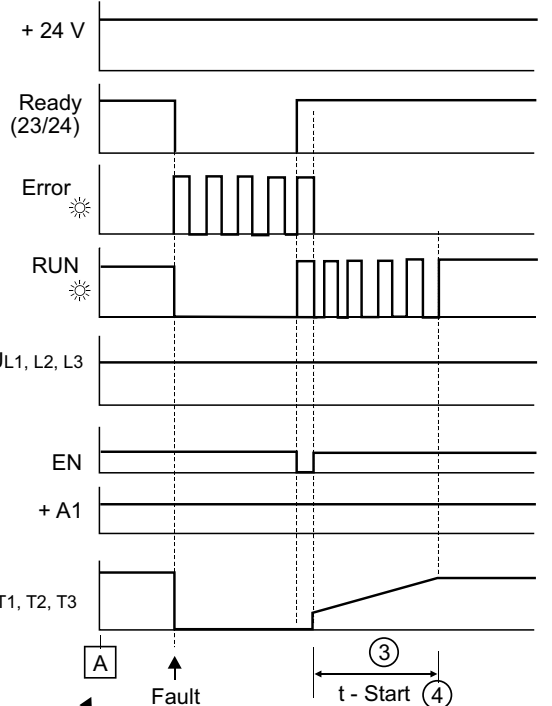


### Fault - Störung - Défaut - Guasto - Avería

RUN-LED green - RUN LED grün - DEL RUN verde - LED RUN verde - LED RUN verde - RUN-LED -

Error-LED red - Error LED rot - DEL erreur rouge - LED errore rosso - LED error rojo

- 1 Initialisation - Initialisierung - Initialisation - Inizializzazione - Inicialización
- 2 Ready for operation - Betriebsbereit - Prêt à fonctionner - Pronto al funzionamento - En condiciones para funcionamiento
- 3 in ramp - in Rampe - en rampe - in rampa - en rampa
- 4 Top of ramp - Rampenende erreicht - Fin de rampe atteinte - Fine rampa - Fin de rampa



0V, +24 + A1, E, -A2 23, 24				
	mm <sup>2</sup> / AWG	mm / inch	Nm / Lb.in	mm
1 x	0.5 - 2.5 / 20 - 14	6 / 1/4"	0.4 / 3.5	0.6 x 3.5
2 x	0.5 - 1.5 / 20 - 16			

Melderelais – Signalling relay – Relais à voyant – Relè di segnalazione – Relè de señalización

U	(L)	(R) AC11	I <sub>min</sub>	U <sub>min</sub>
250V AC	0.2A	2.5A	10mA	100V AC
30V DC	0.7A	3A	100mA	5V DC



**DANGER!** Hazardous Voltage. Will cause death or serious injury. Hazardous voltage is also present in the OFF/STOP status of the soft starter when the supply voltage is switched on (U<sub>e</sub>).

**GEFAHR!** Gefährliche Spannung. Lebensgefahr oder schwere Verletzungsgefahr. Bei eingeschalteter Versorgungsspannung (U<sub>e</sub>) steht auch im AUS-/STOP-Zustand des Softstarters am Ausgang gefährliche Spannung an.

**DANGER!** Tension dangereuse. Danger de mort ou risque de blessures graves. En cas de tension d'alimentation (U<sub>e</sub>) enclenchée, la tension dangereuse existe aussi en position d'Arrêt à la sortie du démarreur progressif.

**PERICOLO!** Tensione pericolosa. Può provocare morte o lesioni gravi. Con la tensione di alimentazione (U<sub>e</sub>) inserita, anche nello stato OFF/STOP del softstarter è presente tensione pericolosa in uscita.

**¡PELIGRO!** Tensión peligrosa. Puede causar la muerte o lesiones graves. Si la tensión de alimentación está conectada (U<sub>e</sub>), existe también en la salida tensión peligrosa con el arrancador suave en estado OFF/ON.

VMX-PFE-02 to VMX-PFE-10					
1 L1, 3 L2, 5 L3 2 T1, 4 T2, 6 T3	75°C wire CU only		M4		
	mm <sup>2</sup> / AWG	mm / inch	Nm / Lb.in	mm	
1 or 2 x	1 - 4 / 18 - 12	9 / 3/8"	1.3 / 12	1 x 6	PZ2

VMX-PFE-12 to VMX-PFE-18					
1 L1, 3 L2, 5 L3 2 T1, 4 T2, 6 T3	75°C wire CU only		M5		
	mm <sup>2</sup> / AWG	mm / inch	Nm / Lb.in	mm	
1 or 2 x	2.5 - 10 / 12 - 8	12 / 1/2"	2.5 / 22	1 x 6	PZ2

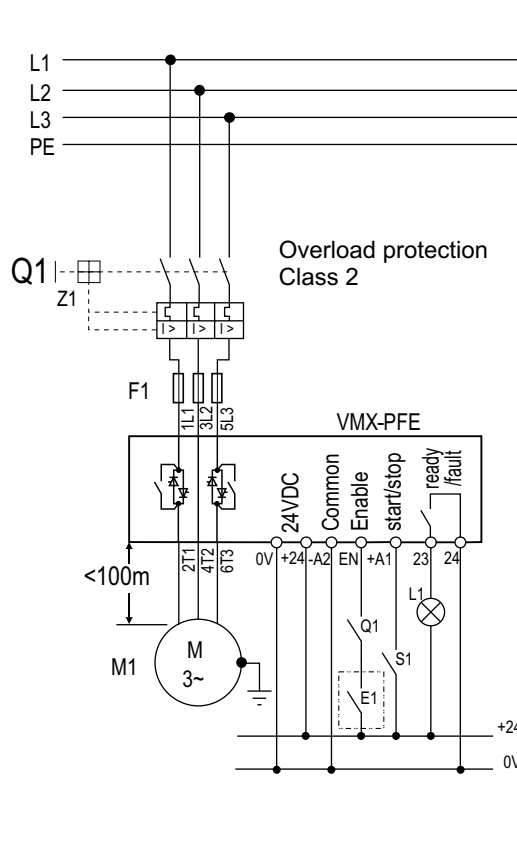
Where several conductors are to be connected, the difference between the wires/cables used must not exceed one DIN Standard size level.

Bei Mehrleiteranschluss darf maximal ein DIN-Normgrößen-Sprung zwischen den verwendeten Leitern liegen.

En cas de raccordement de plusieurs conducteurs, il faut 1 écartement normalisé max. entre les conducteurs.

In caso di collegamento a più conduttori, è ammesso al massimo un salto di grandezza DIN standard fra i conduttori utilizzati.

En caso de conexión de múltiples conductores puede haber como máximo un salto de magnitud normalizada DIN entre los conductores utilizados.



F1 = Coordination Type1  
Recommended Semiconductor Fuses  
VMX-PFE-02 to VMX-PFE-08 SIBA 2018920-35  
VMX-PFE-10 SIBA 2018920-40  
VMX-PFE-12 to VMX-PFE-18 SIBA 2018920-125

**UL Requirement** - Short Circuit rating 5000A, 480Vac when protected by fuses or circuit breakers, rated as indicated in table below

MODEL VMX- #	Class J or T Fuse Rated 600VAC	Circuit Breaker Rated 600VAC
PFE-02	15A	-
PFE-04	15A	-
PFE-06	30A	-
PFE-08	40A	-
PFE-10	50A	-
PFE-12	80A	80A
PFE-14	100A	100A
PFE-16	125A	125A
PFE-18	150A	150A

Control Circuit Elements  
E1 = Optional switch to allow trip reset without opening main breaker Q1  
Q1 = Auxiliary contact of main breaker Q1  
S1 = Start/Stop control switch  
L1 = Indicator: - On: Ready  
Off: Fault

- Q1 = Cable protection - Leitungsschutz - Protezione di linea - Protección de cable - Protection de câbles
- Z1 = Overload relay - Überlastrelais - Relè termico - Relè de sobrecarga - Relais thermique
- F1 = Semiconductor fuse for type 1 coordination, in addition to Q1  
Halbleiterschutz für Zuordnungsart 1, zusätzlich zu Q1  
Per avere la protezione del semiconduttore in coordinamento di tipo 1, è necessario un fusibile in aggiunta a Q1  
Fusible semiconductor para tipo de coordinación 1, adicionalmente a Q1  
Fusible pour semi-conducteurs pour coordination de type 1, additionnel à Q1
- VMX-PFE = Soft Starter - Halbleiterschütz - Contactor semiconductor - Contattore a semiconduttori - Contacteur à semi-conducteurs
- A1-A2 = Start/Stop - Start/Stopp - Start/Stop - Arranque/Parada - Démarrage/Arrêt



**Electric shock risk. Danger**

Only skilled or instructed persons may carry out the following operations.

**Lebensgefahr durch elektrischen Strom!**

Nur Elektrofachkräfte und elektrotechnisch unterwiesene Personen dürfen die im Folgenden beschriebenen Arbeiten ausführen.

**Tension électrique dangereuse !**

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

**Tensione elettrica: Pericolo di morte!**

Solo persone abilitate e qualificate possono eseguire le operazioni di seguito riportate.

**¡Corriente eléctrica! ¡Peligro de muerte!**

El trabajo a continuación descrito debe ser realizado por personas cualificadas y advertidas.

**Rated Impulse withstand Voltage (U<sub>imp</sub>)** 2.5kV

**Rated Insulation Voltage (U<sub>i</sub>)** 500V

**Pollution Degree** 2

**Rated Short Circuit Current (I<sub>q</sub>)\*** 5kA

**Short Circuit Co-ordination\*** Type 1

**Surrounding Air Temperature** 0°C to 40°C.

Above 40°C de-rate linearly by 2% of unit FLC per °C to a derate of 40% at 60°C (not UL)

**Transport and Storage** -25°C to +60°C

**Altitude** 1000m. 1000-2000m de-rate 1% of unit FLC per 100m to 2000m.

**Humidity** max. 85% non-condensing, not exceeding 50% at 40°C

**IP Rating** IP20

**Design Standards** IEC 60947-4-2; EN60947-4-2

\*AC Semiconductor Motor Controllers and Starters\*

United States Standard UL508

\* When protected by recommended semiconductor fuse.

EMC EMISSION AND IMMUNITY LEVELS		
ESD immunity	IEC 61000-4-2	4kV contact. 8kV air discharge
R F immunity	IEC 61000-4-6	140dBuV over 0.15-80MHz
R F immunity	EC 61000-4-3	10V/m over 80 -1000MHz
Fast Transient immunity	IEC 61000-4-4	2kV/5kHz
Surge immunity	IEC 61000-4-5	2kV line to ground 1kV line to line
Conducted RF emissions	EN 55011	Class A
Radiated RF emissions	EN 55011	Class A

**California Customers: California Proposition 65 Warning**

WARNING: this product and associated accessories may contain chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

For more information visit <https://p65warnings.ca.gov>

<b>Operational Voltage (U<sub>e</sub>)</b>	200-480 VAC rms 3-Phase (-15% +10%)
<b>Rated Frequency</b>	50 - 60Hz +/- 2Hz <b>Form Designation</b> Form 1
<b>Index Rating</b>	Standard (Class5) AC53b: 3-5: 355 Overcurrent = > 3 x I <sub>e</sub> for 5 Seconds
<b>Control Supply Us</b>	24V DC approx 4VA supplied to terminals 0V - +24V
<b>Enable Control</b>	24V DC galvanically isolated terminals -A2 - EN
<b>Start/Stop Control</b>	24V DC galvanically isolated terminals -A2 - +A1
<b>Auxiliary Circuits relay</b>	Ready/Fault - 23/24. 250VAC 2.5A, AC11.
<b>Indication</b>	Red = Error - Green = Run LEDs
<b>t-Start</b>	1 to 30 seconds.
<b>U-Start</b>	30% - 100%
<b>t-Stop</b>	0 to 30 seconds
<b>Start Duty</b>	3 x FLC for 5 seconds at standard rating
<b>Starts / Hour</b>	standard 10 starts per hour or 5 starts + 5 soft stops per hour with optional fan 60 starts per hour or 30 starts + 30 soft stops per hour
<b>Power Terminals</b>	Internally bypassed IP20 Rated wire clamping terminals

Listed Soft starter can be used when fitted with fan part numbers as detailed in document MAN-PFE-007-V01

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web: [www.motortronics-uk.co.uk](http://www.motortronics-uk.co.uk)



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