PFE

Low Power Applications

Low Voltage
Soft Starters

The cost effective starter for small AC induction motors

For small to medium industrial applications

1–41 A

fairford
Soft Starter Technology
Part of the Motortronics Group

PFE

Low Power Applications

DIN Rail Mounted

Internally Bypassed

3S Technology

The PFE is an innovative development from Fairford, who have 30 years of experience producing innovative designs in the soft start market

With ratings from 1.1 kW to 22 kW, the PFE is ideally placed to support any AC induction motors in use today. This makes the PFE the natural choice for distributors and customers alike.

Benefiting from Fairford's excellence in engineering, the PFE combines the quality and reliability you have come to expect. This is one product that ticks all the boxes.

Internally Bypassed

Reduces cost because the soft starter is out of circuit once it has done its job. This reduces cabinet size and the heat produced which again reduces cost.

Over Current Protected

Protects the soft starter against use above its duty rating.

45mm Wide (Size 1)

Same width as typical existing control gear for easy connectability and enables a more compact cabinet to be used.

DIN Rail Mounted

For easy installation – it just clips on.

3S Technology

Automatic ramp control profiles ensure smooth start and stop performance, delivering stable acceleration and deceleration in all operating conditions.

3S Technology allows a 30 second soft start and a 30 second soft stop time, which other systems which cannot achieve. Thus being able to attain a Trip Class 30 start duty rating for the heavier duty starting applications.

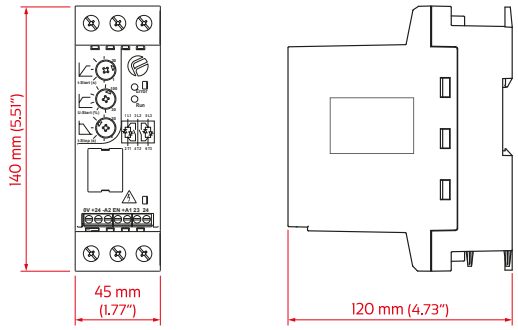
Control of Single Phase Motors

The PFE soft starter may be used with both Three Phase and Single Phase motors – adjustment via a jumper.

www.fairford.com/pfe

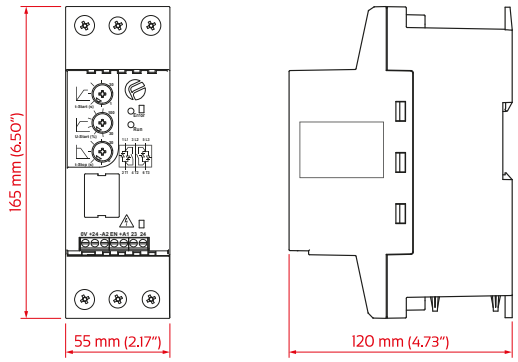
Dimensions

Size 1 PFE-02 to PFE-10



Weight = 400 g (0.88 lbs)

Size 2 PFE-12 to PFE-18



Weight = 650 g (1.32 lbs)

Sizing Guide

For application specific sizing, use the online Soft Starter Selector: **www.fairford.com**

Motor Rating				Trip Class 2	Trip Class 10
400 V		460 V		I_e: AC-53b: 3-5: 355 10 starts/hour	I_e: AC-53b: 3-23: 697 5 starts/hour
I_e (A)	kW	I_e (A)	HP		
2.7	1.1	3	1.5	PFE-02	PFE-02
3.6	1.5	3.4	2	PFE-02	PFE-04
4.9	2.2	4.8	3	PFE-02	PFE-06
6.5	3	4.8	3	PFE-04	PFE-08
8.5	4	7.6	5	PFE-06	PFE-10
11.5	5.5	11	7.5	PFE-08	PFE-12
15.5	7.5	14	10	PFE-10	PFE-16
22	11	21	15	PFE-12	PFE-18
29	15	27	20	PFE-14	PFE-18 + FAN
35	18.5	34	25	PFE-16	–
41	22	40	30	PFE-18	–

Specification

Operational Voltage	230–460 VAC rms 3-Phase (-15% +10%)
Rated Frequency	50–60 Hz ± 2 Hz
Index Rating	Class 2 AC53b: 3-5: 355 Class 10 AC53b: 3-23: 697
Starts per Hour	Up to total of 5 starts/stops per hour Class 10 and 10 start/stops per Class 2
Optimum Starts per Hour	Up to 30 starts per hour with optional fan Class 10 and 60 starts per hour Class 2
Internally Bypassed	Yes
Control Supply	24 VDC approx. 4 VA supplied externally to terminals 0 V – +24 V
Enable and Start/Soft Stop	24 VDC galvanically isolated terminals -A2, EN, +A1
Indication	Multifunction LEDs on front panel
Start Time	1 to 30 seconds
Stop Time	0 to 30 seconds
Start Duty	3 × FLC for 23 seconds at Trip Class 10 rating
Power Terminals	Input 1/L1, 3/L2 & 5/L3 Output 2/T1, 4/T2, 6/T3 IP20 rated wire clamping terminals (unit is IP20)
IP/NEMA Rating	IP20, NEMA 1
Ambient Temperature	0 °C to 40 °C Above 40 °C de-rate linearly by 2% of unit FLC per °C to a de-rate of 40% at 60 °C
Transport and Storage	-25 °C to 60 °C -25 °C to 75 °C (not exceeding 24 hours)
Altitude	1,000 m Above 1,000 m de-rate linearly by 1% of unit FLC per 100 m to a maximum altitude of 2,000 m Above 2,000m contact Fairford Electronics Ltd.
Humidity	Max. 85% non-condensing, not exceeding 50% at 40 °C
Standards	IEC 60947-4-2; EN 60947-4-2 "AC Semiconductor Motor Controllers and Starters" UL, ACMA & CE

PFE

Low Power Applications

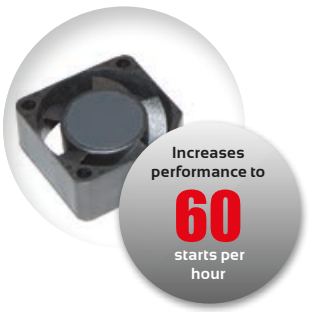
The PFE range has been successfully used in many applications. A good example of its versatility is in the following case study of an unloading winch and davit in a large commercial port.

The winch is used for unloading 500 kg fish/scallop boxes from vessel to shore and a smoother start/stop was required to alleviate 'jarring' which was becoming a problem. A PFE-08 3 kW soft start with fan was chosen to increase the number of start/stops per hour as the trawler can be 5/8 meters below dock level and jogging is used to position the lifting gear under the skippers instructions. Due to the success of the installation another four systems have been installed.

Dockside Davit designed and built by Spencer Carter Ltd, Falmouth, Cornwall.
www.spencercarter.com

Product Options

PEFFAN01	Auxiliary Fan for PFE-02 to 10
PEFFAN02	Auxiliary Fan for PFE-12 to 18
APSU005-R	Power Supply – 100/230 VAC to 24 VDC



For more information on the PFE contact your local distributor

+ 44 (0)1752 894554
www.fairford.com

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BRO-PFE-001-V03