Allen-Bradley Service Manual

150-F108NBRB

1. Description

150-F108NBRB

3. Product Information

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150-F108NBRB

SMC Flex Smart Motor Controller

Controller Rating

108 A 20-75Hp @ 460V AC

Sub Brand

SMC Flex

With display

True

Voltage type for actuating

AC/DC

Rated operating voltage Ue

200 V

Rated control supply voltage at AC 50 Hz

24 V

Rated control supply voltage at AC 60 Hz

24 V

Overload current for line connected devices

27 A

Overload current for delta connected devices

47 A

Controller type

Soft starter

Control options

Pump control

Trip classes

10, 15, 20 and 30

Trip current rating

117% of motor FLC

Transformer control module

75VA @ 100...240V AC (-15%, +10%)

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Heatsink fan rating

20VA @ 110/120V AC or 220/240V AC

DV/DT protection

RC snubber network for power circuit

Repetitive peak inverse voltage rating

1400V per UL/CSA/NEMA for power circuit

Operating frequency

50/60 Hz for power circuit

Line connected motor power, max

90 kW @ 690V/Y AC, 50 Hz, 3-phase

Delta connected motor power, max

90 kW @ 400/415V AC @ 50Hz, 3-phase

Rated impulse voltage

6000V per IEC for power circuit

Dielectric withstand

2500V per IEC for power circuit

Line connected motor current

27...108 A @ 600/Y/690V AC, 3-phase

Delta connected motor current

47...187A @ 500/575V AC, 3-phase

Ampere tested european style, max

6,9 gRB 73xxx400 6,6URD33xxx500 @ 690V for maximum FLC

Ampere tested north american style, max

A070URD33xxx500 @ 690V for maximum FLC

Transient protection

Metal oxide varistors: 220 J (optional) for power circuit

Insulation voltage

Rated 500V per IEC for power circuit

Rated operational voltage

200...480V AC (-15%, +10%) per UL/CSA/NEMA for power circuit

Input OFF-state current

<10 mA AC, <3 mA DC for control circuit @ input OFF-state voltage

Short-circuit protection device list

Standard fuse, circuit breaker and high capacity time delay class CC/J/L

Number of contacts

1 for auxiliary contacts

High capacity available fault current, max

70kA @ 600V, maximum current 300 A time delay Class J or Class L fuse for inside delta connected motors

Type of current

AC for auxiliary contacts

Conventional thermal current (Ith)

AC/DC: 5 A for auxiliary contacts

Type of control circuit

Electromagnetic relay for auxiliary contacts

Type of contacts

Progmable NO/NC for auxiliary contacts

Utilization category

MG 1 per UL/CSA/NEMA for power circuit

Standard controller feature

Status indication: stopped, starting, stopping, at speed, alarm and fault

Standard available fault current, max

70kA @ 690V for maximum FLC

Optional controller feature

SMB smart motor braking control: provides motor braking without additional equipment for applications that require the motor to stop quickly, braking current is adjustable from 0...400% of the motor’s full-load current rating

Rated control supply voltage at DC

24 V

Integrated motor overload protection

True

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Short circuit protection device performance (SCPD) type

Type 1

Number of sensors, max

6 for PTC input ratings

Inrush current control module

5A @ 24V DC (-15%, +10%)

Voltage at PTC terminals (RPTC = open), max

30V for PTC input ratings

Transient watts control module

60 W @ 24V DC (-15%, +10%)

Steady state watts control module

24 W @ 24V DC (-15%, +10%)

Voltage at PTC terminals (RPTC = 4 kΩ), max

<7.5 for PTC input ratings

Response time

800 ms for PTC input ratings

Inrush time control module

250 ms @ 24V DC (-15%, +10%)

Transient time control module

500 ms @ 24V DC (-15%, +10%)

Cold resistance of PTC sensor chain, max

1500 Ω for PTC input ratings

Tachometer input

0...5V DC @ 4.5V DC = 100% Speed

Allen bradley power supply control module, min

1606-XLP50E @ 24V DC (-15%, +10%)

Short circuit trip resistance

25 Ω ± 10 Ω for PTC input ratings

Response resistance

3400 Ω ± 150 Ω for PTC input ratings

Reset resistance

1600 Ω ± 100 Ω for PTC input ratings

Input OFF-state voltage, max

50V AC @ 10V DC/12V AC for control circuit

Input ON-state voltage, min

85V AC @ 19.2V DC/20.4V AC for control circuit

Rated operational current

3A @ 120V AC, 1.5A @ 240V AC for auxiliary contacts

Input ON-state current

20mA @ 120V AC/40mA @ 240V AC, 7.6mA @ 24V AC/DC for control circuit

Contact type

Auxiliary contacts 19/20 (Aux #1), 29/30 (Aux #2), 31/32 (Aux #3) and 33/34 (Aux #4)

Steady state heat dissipation with control and fan power

91 W

Storage and transportation temperature

-20 °C

Humidity

5...95% (noncondensing)

Operating temperature

Open: -5 to 50 °C (23 to 122 °F)

Protection against electrical shock

IP2X (with terminal covers) per IEC for power circuit

EMC emission levels

Radiated emission: Class A

EMC immunity levels

Surge transient: per EN/IEC 60947-4-2

Altitude

2000 m

Pollution degree

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Weight

15 kg

Shock

Opsal: 5.5 G

Width

196.4 mm (7.74 in)

Depth

212.2 mm (8.35 in)

Height

443.7 mm (17.47 in)

Power pole construction

Heatsink hockey puck thyristor modular design

Vibration

Opsal: 1.0 G peak, 0.15 mm (0.006 in) displacement

Make

3600VA for auxiliary contacts

Break

360VA for auxiliary contacts

Internal bypass

True

Function

Single direction

Power terminal markings

NEMA, CENELEC EN50 012

Control terminals

ClAing yoke connection, M3 screw clA

Line/load side power terminals

One M10 x 1.5 diam hole per power pole

Number of poles

3

Enclosure

Open type

Control modules construction

Thermoset and thermoplastic moldings

Metal parts construction

Plated brass, copper or painted steel

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