

Focus 1

Simple and Reliable

The Focus series of analog DC controls has proven itself for many years as one of the most reliable, rugged and dependable controls in its class. With over 100,000 units installed worldwide, the number of satisfied customers continues to grow.

We stand behind every Focus 1 with a 2-year warranty. Two models (chassis and enclosed) cover the 1/4 to 2 horsepower range, with 1/4 to 1 hp for 90 VDC armatures and 1/2 to 2 hp for 180 VDC armatures.



- Analog DC Drive, Non-Regen
- 1/4 to 2 hp, 1 phase, 115-230 VAC
- Speed or torque regulation
- Designed for 50 or 60 Hz operation
- One amp, full wave field supply
- Enclosed unit features:
 - double pole AC power disconnect switch
 - start/stop selector switch
 - speed potentiometer
- Chassis unit includes single-turn speed pot for customer use
- Run LED indicator light
- NEMA 1 or Chassis
- Complete Motor Solutions



FEATURE PERFORMANCE

Solid state full wave design with generously rated power semiconductors

Increases reliability, robustness, and life of controller

Integrated circuitry using state-of-the-art electronics

Ensures a fast, accurate response

Both AC input lines fused Maximizes drive protection

Control relay

Prevents restart of drive after power interruption

Controlled acceleration of 2 to 3 seconds

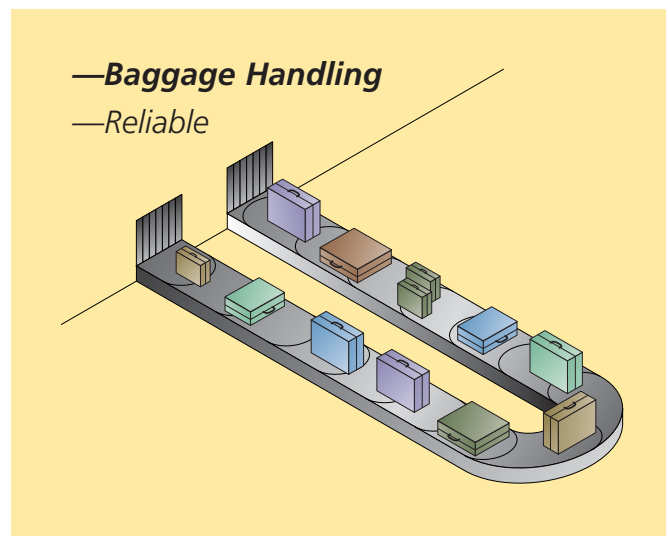
Provides soft motor starting

Jumper programmable for: Line voltage (115-230 VAC)

Armature voltage (180 / 90VDC)

Motor current (5.5 / 7.5 / 10 Amps)

Speed or torque control



RATINGS: FOCUS 1 NON-REGEN DRIVE

SINGLE PHASE INPUT

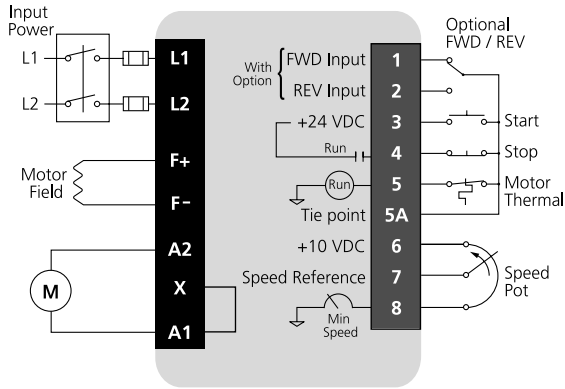
.25 to 1 hp (120 VAC)

.50 to 2 hp (240 VAC)

Motor HP	Input		Output				Model	Order Code
	AC Volts	Amps	DC Voltage		Amps			
			Arm	Field	Arm	Field		
.25 to 1	120	14	90	100	10	1	Chassis	2400-8001W
.50 to 2	240	14	180	200	10	1		
.25 to 1	120	14	90	100	10	1	NEMA 1	2400-8000W
.50 to 2	240	14	180	200	10	1		



TERMINAL DIAGRAM: FOCUS 1

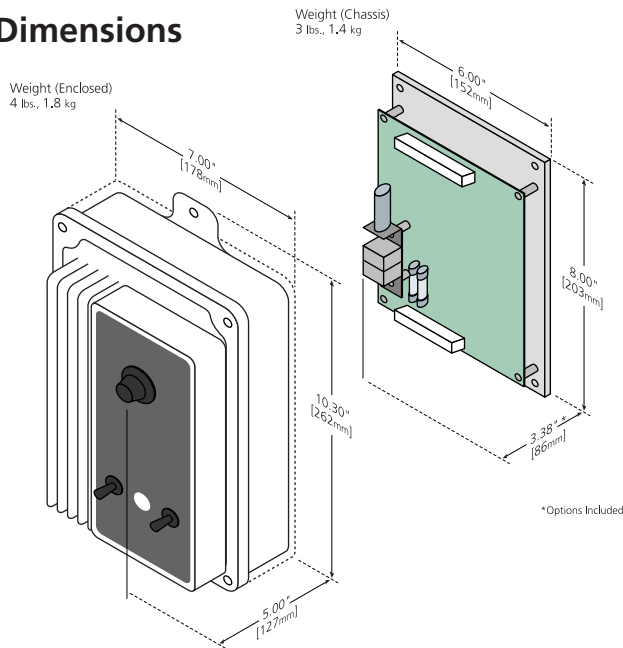


Terminal Description

Pin #	Type	Notes
1	Forward Select Input	+24 VDC (contactor option only)
2	Reverse Select Input	+24 VDC (contactor option only)
3	+24 VDC Power Supply	For Start / Stop circuit
4	CRR Run Relay	Start Relay seal-in contact
5	Start Input	+24 VDC CRR Run Relay
5A	Tie Point	Motor thermal connection
6	+10 VDC Speed Pot	5 mA max (CW connection)
7	Analog Input	0 to +10 VDC (equals 100% speed)
8	Speed Pot Common	Min. speed (CCW connection)

Note: Table applicable to chassis Focus 1 only.
Operator devices in enclosed units are factory wired.

Dimensions



SPECIFICATIONS: FOCUS 1

Adjustments

Maximum Speed	70 to 115% of rated speed
Minimum Speed	0 to 30% of maximum speed
IR Compensation	0 to 20% of rated voltage
Current Limit	Fixed 150% of selected range
Acceleration/Deceleration	Fixed 2 to 3 seconds

Operator Functions

Speed Adjustment	Standard
Power On / Off	Standard (Enclosed)
Start / Stop	Standard (Enclosed)
Forward / Reverse	Option Kit

Customer Selectable

Input Voltage	115 or 230 VAC
Control Mode	Speed or Torque
Output Current	Hi / Med / Low
Armature Voltage Feedback	Hi (180) / Lo (90) VDC

Control

Logic Control Power	24 VDC
Speed Potentiometer	5k Ohms, 2 watts, single turn
Input Signal Requirement	0 to +10 VDC, 44k Ohms
Speed Regulation	1% of maximum speed with IR compensation

Drive Operating Conditions

NEMA 1	Standard (Enclosed) N/A (Chassis)
NEMA 4/12	Option Kit (Enclosed) N/A (Chassis)
Altitude	1000m (3,300 ft)
Ambient Temperature	0 to 40°C (32 to 104°F) (Enclosed) 0 to 55°C (32 to 131°F) (Chassis)
Minimum Enclosure Size	N/A (Enclosed) 24" x 20" x 6" (Chassis)
Rated Input Voltage	115-230 VAC ±10%
Rated Frequency	48 to 62 Hz
Overload Capacity	150% of selected rating

Efficiency

Controller (min.)	98%
Drive (typical)	86%

Option Kits

"M" Contactor	Yes
Reversing Contactor	Yes
Dynamic Braking	Yes
NEMA 4/12	Yes (Enclosed) N/A (Chassis)
Remote Speed Meters	Yes
Ten-turn Potentiometer	Yes

Focus 1 Options

NEMA 4/12 CONVERSION KIT

This kit is used to convert the standard Focus 1 enclosure to a NEMA 4/12 rating suitable for “wash down” environments. Included in the kit is a gasket to seal the connection between the upper and lower enclosure sections, three boot seals for the Start/Stop, AC power On/Off and optional Fwd/Rev switches, and a shaft-sealing nut for the speed potentiometer.



Description	Order Code
F1 NEMA4/12	2400-9000

“M” CONTACTOR KIT

This kit provides a positive disconnect of the motor armature when the controller is stopped, preventing motor rotation in the event of SCR misfire due to line noise. It includes a magnetic contactor and mounting bracket for mounting in the Focus 1 chassis or enclosed units. This kit may also be required by local and/or national electrical codes.



Description	Order Code
M-Contactor Kit	2400-9001

REVERSING CONTACTOR KIT

This kit provides the Focus 1 the ability to reverse the direction of the motor rotation. It includes a reversing contactor, mounting bracket and Fwd/Rev selector switch. The kit may be mounted in the Focus 1 chassis or enclosed units. It meets the same local and/or national electric code that requires an “M” contactor kit.



Description	Order Code
Reversing Contactor Kit	2400-9002

DYNAMIC BRAKING KITS

Dynamic braking provides rapid motor stopping by quickly dissipating the stored energy in the rotating motor and load.



These kits are designed for use with either the “M” contactor or the reversing contactor kits. The resistors have been sized in accordance with the following NEMA specification for dynamic braking: *“Three stops in rapid succession with the load inertia equal to the motor inertia, then cooling forever.”*

Input Voltage	HP (typical)	DB Kit Catalog Number
115 VAC	.25	2400-9004
	.33	2400-9004
	.5	2400-9003
	.70	2400-9007
	1	2400-9007
230 VAC	.5	2400-9006
	.75	2400-9005
	1	2400-9005
	1.5	2400-9004
	2	2400-9003

TOGGLE SWITCH

This kit is used to provide one of the following functions: Run/Jog or Fwd/Rev. It can be mounted in the Focus 1 or Focus 3 enclosure cover, or remotely mounted when used with the chassis drive. The F3TS kit includes the toggle switch, NEMA 4/12 switch boot and connection wires for enclosure cover use. A maximum of three kits may be used with the enclosure cover.



Description	Order Code
Toggle Switch	F3TS

TEN-TURN SPEED POTENTIOMETER

This ten-turn speed pot provides a vernier scale for precise and repeatable speed setting while a locking tab prevents inadvertent speed changes. It may be mounted in the Focus 1 or Focus 3 enclosure, or in a remote operator station.



Description	Order Code
Ten-Turn Speed Potentiometer	6160-9001