



Electric *Fail-Safe Actuators*



Battery Backup Electric Fail-Safe

Torques up to 2640 In-Lbs
Emergency shutdown applications

- Corrosion resistant housing and enclosure Type 4, 4X, and 6, IP65
- Four internal switches (2-Indication; 2-Motor Control)
- Heater and thermostat standard
- Sealed, maintenance-free, rechargeable battery
- 110 VAC, 220 VAC (model specific)
- Local or Remote Control
- Battery power level indication
- LED indication for Power Supply/Open/Close/Fault
- Configurable to fail clockwise or counter-clockwise on loss of power
- Manual override with handwheel
- Standard ambient temperature range: -4°F to 140°F

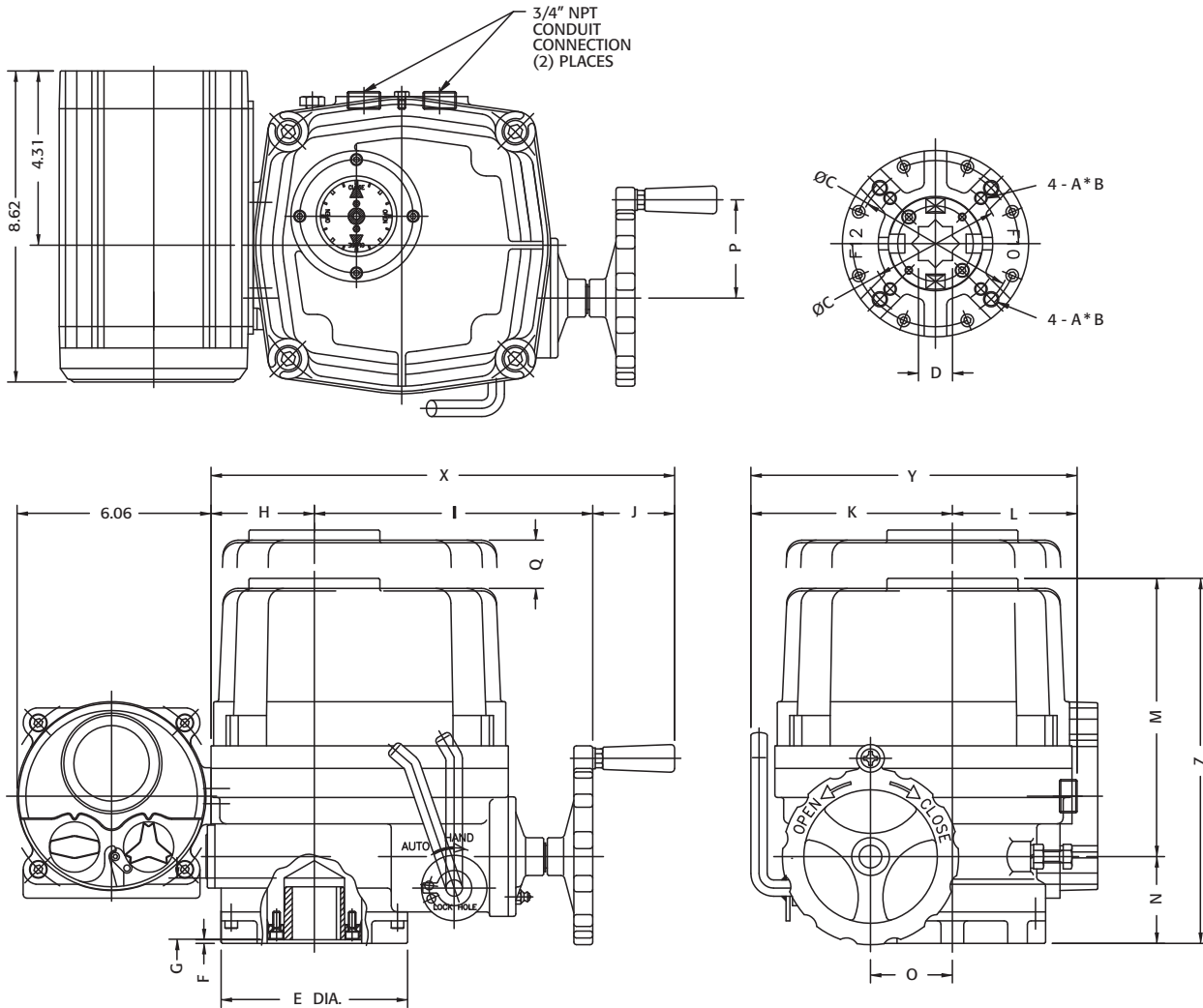
CONTROL POWER(DC24V,0.2A)

OTS

IN
SWITCH
UNIT

Technical and Dimensional Information

BFS Series



LED LAMP SIGNAL	
WHITE	○ POWER
GREEN/BLACK/RED	○ BATTERY LEVEL
BLUE	○ REMOTE
YELLOW	○ FAULT
RED	○ OPEN
GREEN	○ CLOSE

- Configurable to fail close or fail open on loss of power supply
- VRLA battery capacity for 5 cycles after loss of power
- Battery recharges automatically when re-energized

BFS Motor Data (110VAC)

Model	Torque (In-Lbs)	Speed (Quarter-Turn)	Full Load Current
BFS-690	690	13	1 AMP
BFS-1350	1350	21	1.3 AMPS
BFS-1700	1700	21	1.5 AMPS
BFS-2640	2640	26	1.9 AMPS

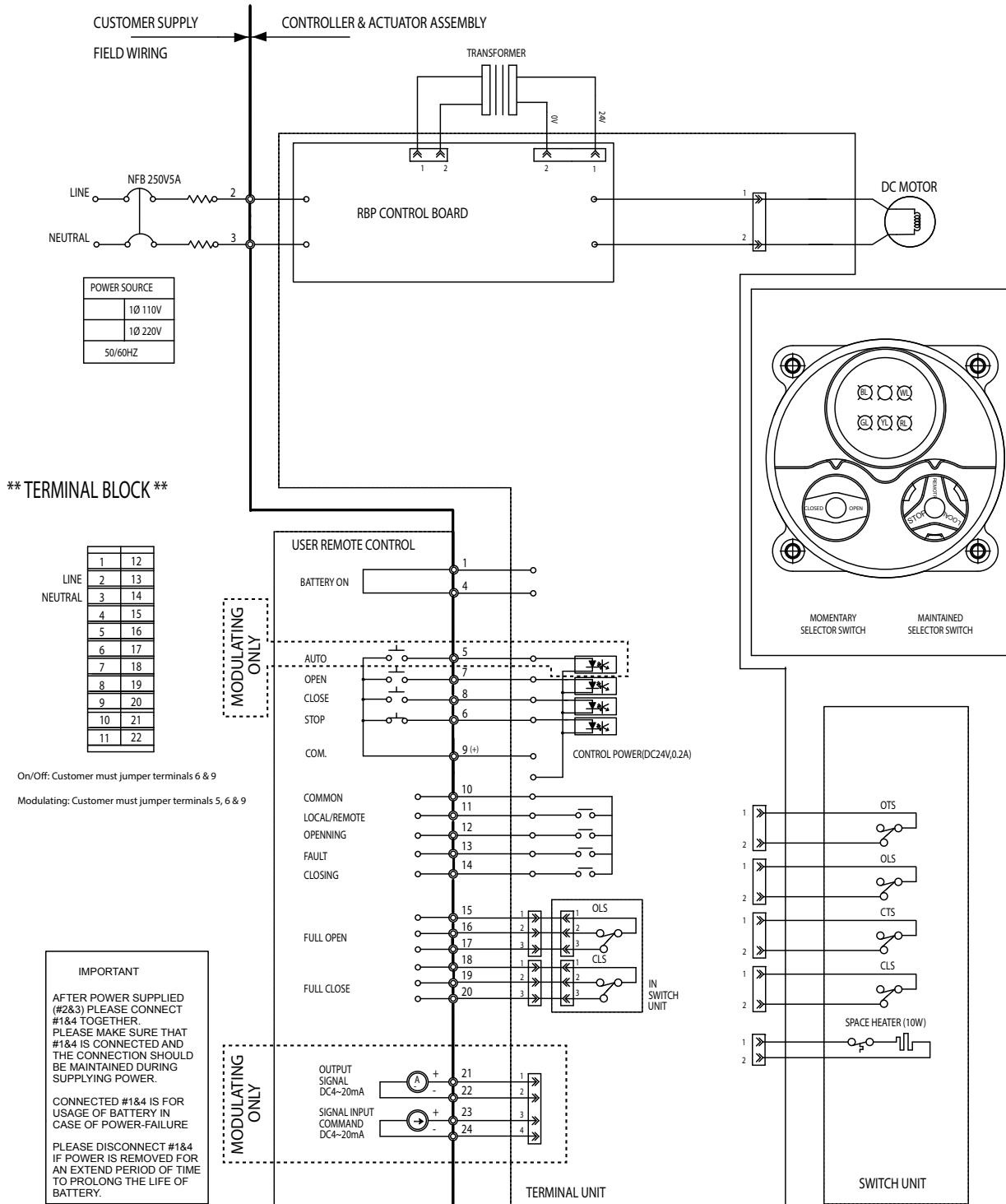
DIMENSIONS (IN)

SIZE	A	B	C	D sq	E	F	G	H	I	J	K	L	M	N	O	P	Q	X	Y	Z	ISO 5211	LBS
BFS-690	M8	0.47	2.756	0.669	3.46	0.12	1.26	1.97	6.18	2.01	3.94	2.76	6.57	2.09	1.57	2.36	4.72	10.16	6.69	9.25	F07	35
BFS-1350	M8/M10	0.47/0.59	2.756/4.016	0.748	4.92	0.12	1.65	2.87	7.87	2.56	5.59	3.43	7.56	2.68	2.13	3.07	6.30	13.31	9.02	10.55	F07/F10	49
BFS-1700	M8/M10	0.47/0.59	2.756/4.016	0.748	4.92	0.12	1.65	2.87	7.87	2.56	5.59	3.43	7.56	2.68	2.13	3.07	6.30	13.31	9.02	10.55	F07/F10	52
BFS-2640	M10/M12	0.59/0.71	4.016/4.921	1.063	5.83	0.12	1.93	3.23	8.70	2.56	6.30	3.90	8.70	2.72	2.56	3.07	7.09	14.49	10.20	11.42	F10/F12	62

Wiring Diagram

BFS Series On/Off or Modulating

ON/OFF - SE1231 MODULATING - SE1253



** NOTE **

Technical Explanation

AUTO : REMOTE mA CONTROL
OLS : OPEN LIMIT SWITCH
CLS : CLOSE LIMIT SWITCH
OTS : OPEN TORQUE LIMIT SWITCH
CTS : CLOSE TORQUE LIMIT SWITCH
RL : RED LAMP FOR OPEN
GL : GREEN LAMP FOR CLOSE
YL : YELLOW LAMP FOR FAULT
RY1 : REMOTE MONITOR RELAY
● : MARKS FOR TERMINAL

BATTERY : LED LAMP MODE
RL : RED LAMP FOR BAT 50%
GL : GREEN LAMP FOR FULL RECHARGE
BL : BLUE LAMP FOR 50 ~ 80%

WL : WHITE LAMP FOR POWER
BL : BLUE LAMP FOR REMOTE

** LIMIT SWITCH CONTACT POSITIONS **

ROTOR	CON-TACT	VALVE OPENING (%)	
		0	100
OPEN (OLS)	1-3		
	1-2		
CLOSE (CLS)	1-3		
	1-2		

— : CONTACT ON

- - : CONTACT OFF

TRIAC® Electric Fail-Safe Actuators Part Number Reference

How to Order BFS Series

1 Model

BFS	Battery Backup Fail-Safe Electric Actuator
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2 Main Control

Blank	(2) Position Control (Open / Close)
M	Standard Modulating Control Card with transmitter
E	Ethernet/IP (go to 3)
P	Profibus DP (go to 3)
R	Modbus RTU Single Channel (go to 3)
T	Modbus/TCP (go to 3)
U	Modbus RTU Dual Channel Isolated (go to 3)

3 Main Control Type (With Communication Options)

Blank	No Communication Control Type
A	Communication Control, Proportional Control/Feedback
B	Communication Control, (2) Position Control (Open / Close)

4 Actuator Sizes

690	690 In-Lbs
1350	1350 In-Lbs
1700	1700 In-Lbs
2640	2640 In-Lbs

5 Motor

X	110VAC/1PH Placeholder only - Omit when at end of part number
E	220VAC/1PH

6 Secondary Control Options

X	No options (Place holder only) Omit when at end of part number
HS1	High Speed 1 (see High Speed Options)
HS2	High Speed 2 (see High Speed Options)
R	2-Wire Control ⁽¹⁾ (110 VAC control voltage)
S	2-Wire Control ⁽¹⁾ (24 VAC control voltage)
T	2-Wire Control ⁽¹⁾ (24 VDC control voltage)

⁽¹⁾ Use 10 Miscellaneous Options 2 to specify direction

7 Miscellaneous Options 1

other options available upon request

Blank	No designation, Actuator Series Standard
X	Multiple Option Designation
T	0-10VDC or 4-20mA Transmitter (On/Off)
N	1000 Ohm Potentiometer
O	5000 Ohm Potentiometer
P	10K Ohm Potentiometer
S	(4) Auxillary limit switches (6 total)

8 Conduit Thread Options

Blank	No Designation, Actuator Series Standard
X	Multiple Option Designation
M	M20
A	M25

9 Drive Bushing

Blank	No designation, Actuator Series Standard
X	Multiple Option Designation
N	Non Standard Drive Bushing Size
6	316 Stainless Steel Standard Drive Size

10 Miscellaneous Options 2

other options available upon request

Blank	No designation, Actuator Series Standard
X	Multiple Option Designation
C	Corrosion Resistant NANO Polymer Coating
L	CCW Operation (specify for 2-wire control)
R	CW Operation (specify for 2-wire control)
P	Non Standard Coating Color



HOW TO ORDER

1	2	3	4	5	6	7	8	9	10	
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	
BFS	M	-	2640	X	X	X	-	X	-	C

Example

BFSM-2640

Triac Battery Failsafe System Electric Actuator, 2640 In-Lbs, 26 Second Operation, 115VAC/1PH, Modulating Control, Type 4 & 6, Compartment Heater & Thermostat, (2) Auxiliary Limit Switches, (2) Torque Switches, Diecast Anodized Aluminum Polyester Coated Construction, Class F Extended Duty Fan Motor, Manual Override, (2) 3/4" NPT Conduit Connections, F10/F12 ISO Mounting Pad, 27MM (1.063) Star Output Drive, Local / Remote Control
*****Fail Clockwise on Loss of Power*****

A-T Controls reserves the right to change product designs and technical/dimensional specifications without notice.