

# Electronic Failsafe - Battery Backup

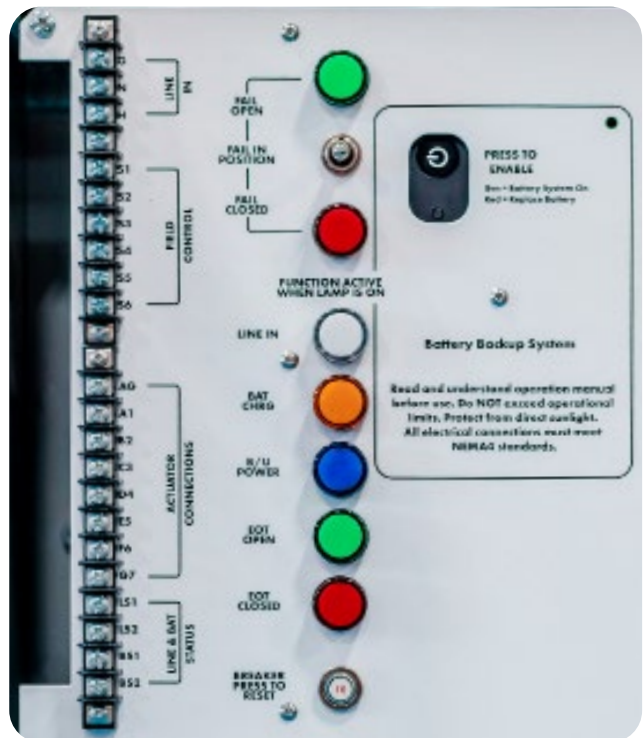
Electronic Failsafe for Electric Actuators | 24VAC & 120VAC, Up to 5,800in-lbs

## Dependable, Low Maintenance Battery Backup Solution

Max-Electric's EFS Series battery backup systems provide fast-acting, easy to install fail-safe power solutions for our ME & MX Series electric actuator lines. These stand-alone reserve power sources provide the required energy to drive valves or dampers to either a fully open or fully closed position, upon loss of mains power. The enclosure is mounted separately from the actuator to allow for convenient access for operation, monitoring status, battery servicing, and ease of maintenance. Fail direction is field-selectable on the control panel. These EFS units are designed to work with our full range of Max-Electric ME & MX series actuators.

### Features:

- 310 thru 5,800 in-lbs
- 24 VAC & 120VAC Outputs
- OPEN/CLOSE or Modulating
- Fiberglass Enclosure w/ Clear View Lid
- NEMA4/4X & IP67
- SCADA Inputs
- Active Status Indicators
- Remote Status Contacts
- Field Replaceable Battery
- Fail Position Selectable
- Power Monitoring for Device Protection
- Resettable Safety Switch

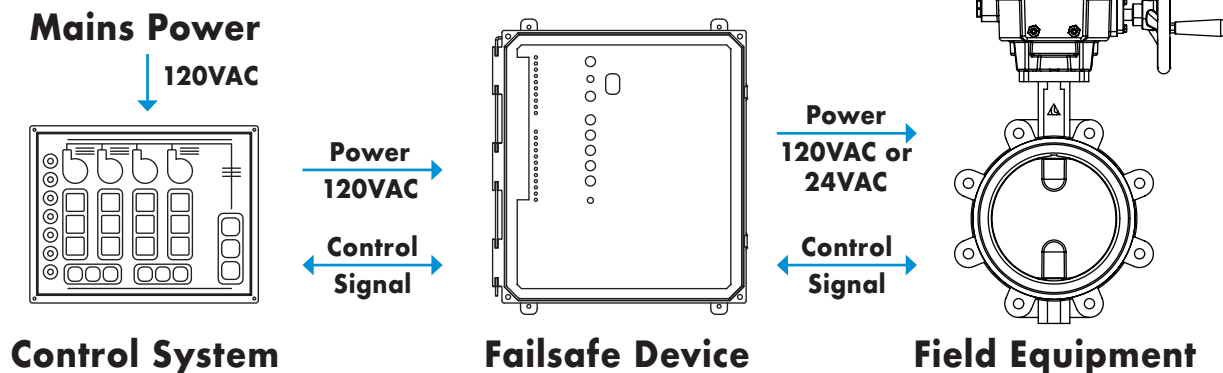


## Isolation & Protection

Our EFS systems not only provide backup power for fail-safe positioning, they also protect the actuator from mains power transients, brown-outs, phase imbalance, and frequency shifting. Standard battery backup systems do not have the capability to protect the actuator from these damaging power anomalies. Our backup systems utilize computer-grade technology to provide exemplary line voltage filtering, as well as protection against back-feeding the power grid during outages.

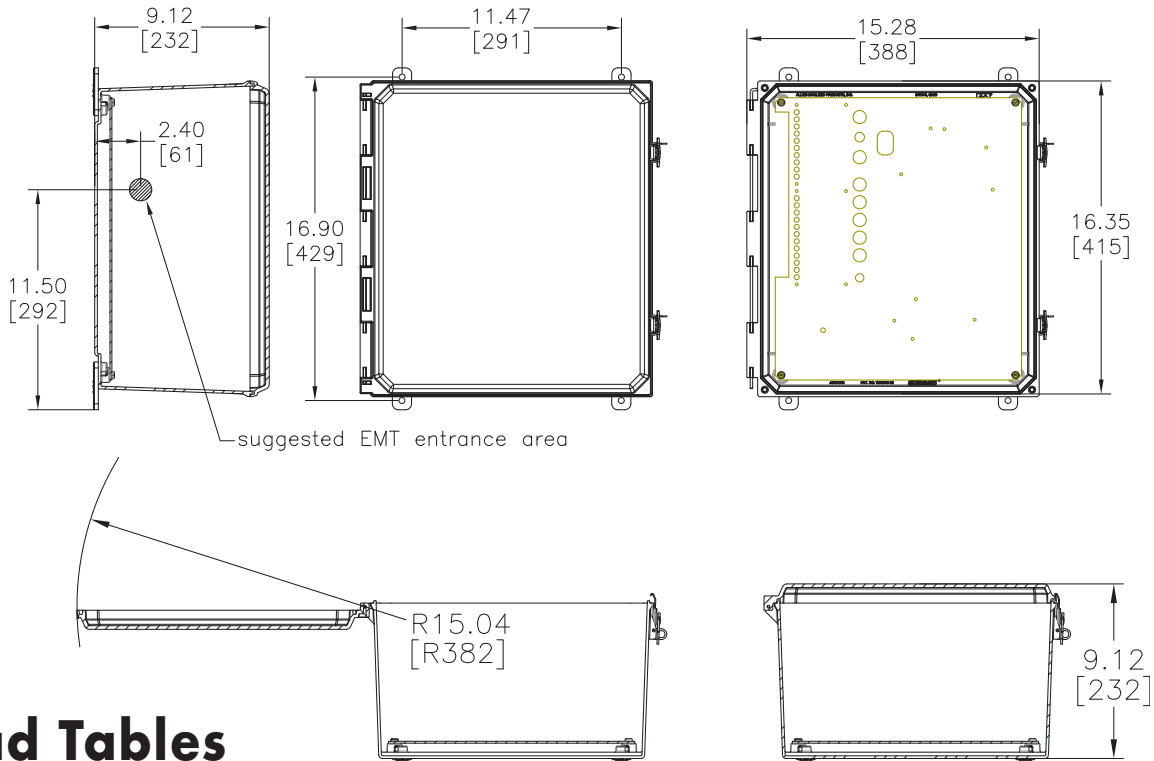
## Flow of Power & Signal

The below diagram illustrates the flow of power and signal.





## Dimensions



## Load Tables

### EFS Load Tables - 120vac Actuators

When EFS Units are packaged with Hazardous Location Unit (MX Series) the EFS must be located outside of the hazardous area.

ME/MX Frame / Voltage	Max # Capacity	Torque ("lbs)	Voltage	Runtime (Seconds) (60 Hz)	EFS Model (2 POS)	EFS Model (MOD)	UPS Model	Capacity Used @ Full Runtime	Replacement Battery
A003-120A	3	310	120	12	EFS550-120-OC	EFS550-120-MOD	BE550G	0.7%	RBC110
C004-120A	3	445	120	27				1.6%	
E008-120A	1	800	120	17	EFS650-120-OC	EFS650-120-MOD	BE650G	1.7%	RBC17
E013-120A	1	1335	120	26				2.6%	
G035-120A	1	3560	120	19				3.1%	
G044-120A	1	4450	120	26				4.0%	
G058-120A	1	5785	120	34				6.3%	

It is possible to connect multiple actuators to a single EFS PROVIDED THE TOTAL ACTUATOR DEMAND DOES NOT EXCEED THE POWER CAPACITY OF THE EFS.

### EFS Load Tables - 24vac Actuators

When EFS Units are packaged with Hazardous Location Unit (MX Series) the EFS must be located outside of the hazardous area.

ME/MX Frame / Voltage	Max # Capacity	Torque ("lbs)	Voltage	Runtime (Seconds) (60 Hz)	EFS Model (2 POS)	EFS Model (MOD)	UPS Model	Capacity Used @ Full Runtime	Replacement Battery
A003-24VA	3	310	24VAC	18	EFS550-24A-OC	EFS550-24A-MOD	BE550G	2.1%	RBC110
C004-24VA	3	445	24VAC	36				4.2%	
E008-24VA	1	800	24VAC	18	EFS650-24A-OC	EFS650-24A-MOD	BE650G	4.3%	RBC17
E013-24VA	1	1335	24VAC	27				5.9%	
G035-24VA	1	3560	24VAC	21				12.4%	
G044-24VA	1	4450	24VAC	28				15.9%	
G058-24VA	1	5785	24VAC	37				25.5%	

It is possible to connect multiple actuators to a single EFS PROVIDED THE TOTAL ACTUATOR DEMAND DOES NOT EXCEED THE POWER CAPACITY OF THE EFS.