

CAFE ACTUATOR

STANDARD CAFE FEATURES

- Multi-Voltage 24-240V AC/DC, 50-60 Hz Input Power with auto-voltage sensing
- LED status light to indicate operational status of actuator
- Multi-Mode Electronic over-torque protection against valve jam
- Brushless motor with ICP protection
- Thermostatic anti-condensation heater
- Remote position indicator via Programmable relays
- Barrel style visual position indicator
- Weatherproof anti-corrosive and UV protected glass filled polypropylene housing
- Easy mounting with ISO 5211
- All external electrical connections via DIN plugs
- Soft Reset via DIN plugs
- CE, UKCA, SGS/C/US, FCC marked
- IP67 ingress protection
- Plast-O-Matic engineered & assembled in USA
- Range of 90° working time 5 seconds
- Fail-safe option w/battery backup

CAFE NITRO FEATURES

- Includes all features of CAFE, plus...
- OLED screen
- Over-torque & over-temperature alarms
- (0-20, 4-20) mA or (0-10, 2-10) V DC proportional closed loop control options
- Differential input/output proportional closed loop control options
- Proportional Control Loop with over voltage and overcurrent protection
- Modbus RS485 proportional control option with 13 registers
- Fail-safe option w/battery backup
- Stand alone control option via asynchronous calendar
- Three different drive mode options: Auto, keypad, manual
- Alarm log option
- Run time diagnostic option
- Range of 90° working time programmable from 5 - 10 seconds

CAFE NITRO FAST FEATURES

- Range of 90° working time programmable from 1 - 5 seconds
- Includes all features/options of CAFE NITRO



CAFE NITRO model shown / appearance may vary

With engineering, manufacturing, assembly and programming all provided by Plast-O-Matic, CAFE actuators are available with a wide range of voltage and performance options, as well as mounting and connections for virtually any valve requiring torque up to 20 Nm.

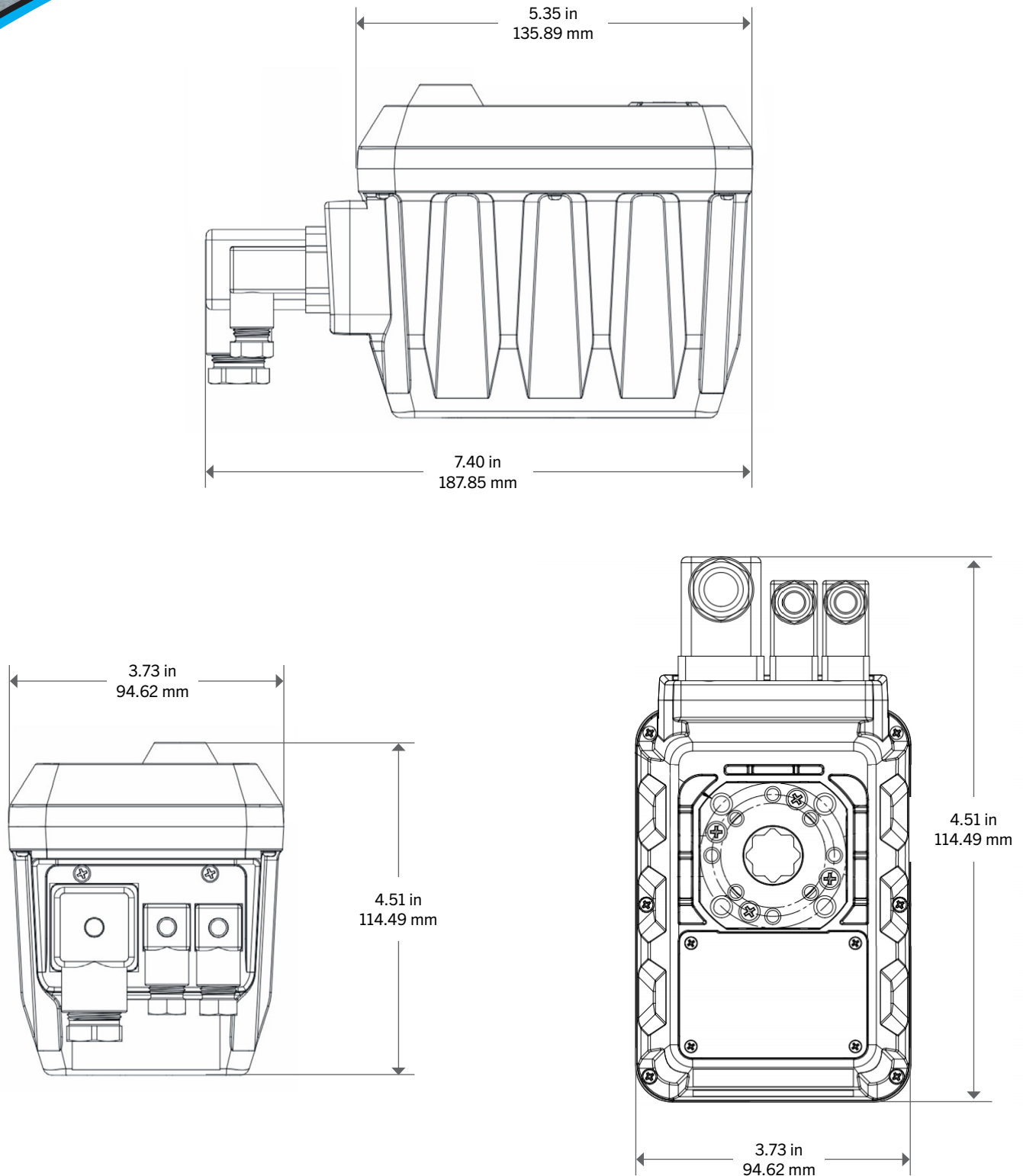
Minimum quantities may apply, depending on level of customization.



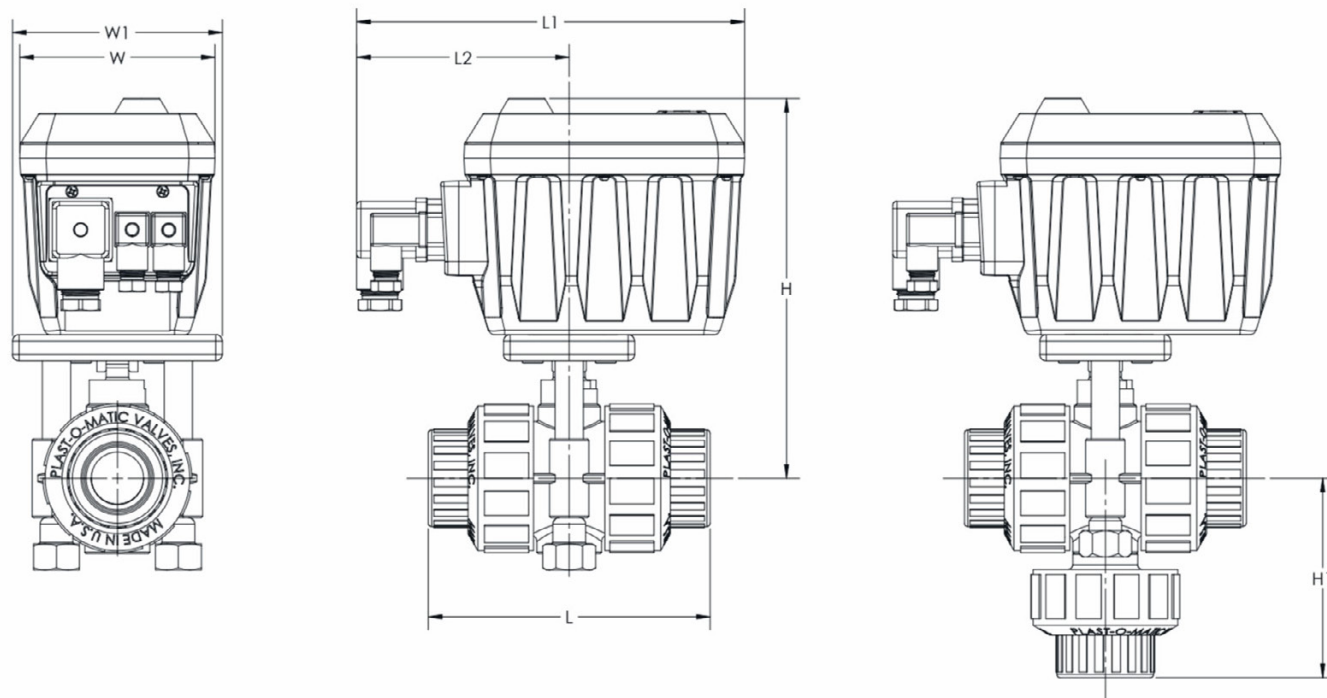
IMAGES & DATA SUBJECT TO CHANGE



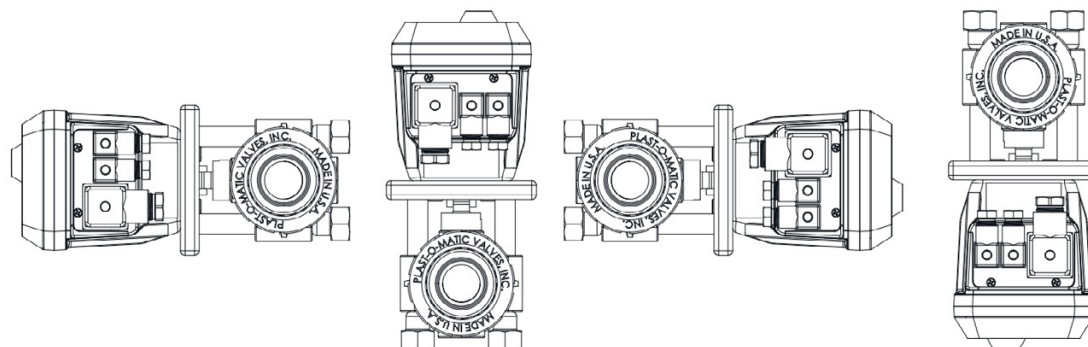
DIMENSIONS



DIMENSIONS



MODEL	SIZE		L		L1		L2		H		H1		W		W1	
	IN	DN	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM
CAFE/CAFEN-037	3/8"	16	4.13	104.8	7.40	187.8	4.05	102.9	6.48	164.7	2.75	69.9	3.73	94.6	4.00	101.6
CAFE/CAFEN-050	1/2"	20	4.13	104.8	7.40	187.8	4.05	102.9	6.48	164.7	2.75	69.9	3.73	94.6	4.00	101.6
CAFE/CAFEN-075	3/4"	25	4.75	120.7	7.40	187.8	4.05	102.9	6.90	175.2	3.25	82.6	3.73	94.6	4.00	101.6
CAFE/CAFEN-100	1"	32	5.38	135.5	7.40	187.8	4.05	102.9	7.25	184.1	3.81	96.8	3.73	94.6	4.00	101.6
CAFE/CAFEN-125	1¼"	40	6.7	170.2	7.40	187.8	4.05	102.9	7.87	199.9	5.00	127.0	3.73	94.6	4.00	101.6
CAFE/CAFEN-150	1½"	50	6.75	171.5	7.40	187.8	4.05	102.9	7.87	199.9	5.00	127.0	3.73	94.6	4.00	101.6
CAFE/CAFEN-200	2"	63	7.90	200.7	7.40	187.8	4.05	102.9	7.87	199.9	5.56	141.2	3.73	94.6	4.00	101.6



**MOUNTABLE IN
ALL ORIENTATIONS**



SPECIFICATIONS • 3/8" - 2" BALL VALVES

Actuator	CAFE	CAFE NITRO	CAFE FAST
Input Voltage (+1.1 V _R / -0.85 V _R)	24 Vdc, 24 Vac, 110-240 Vac	24 Vdc, 24 Vac, 110-240 Vac	24 Vdc, 24 Vac, 110-240 Vac
Frequency	DC, 50Hz/60Hz	DC, 50Hz/60Hz	DC, 50Hz/60Hz
Working Time 0-90° No Load) ±10%	5 seconds preset	5 seconds preset - up to 10 sec via display	1 second preset - up to 5 sec via display
Multivoltage Maximum Run Torque (Nm/ in-lbs.)*	15 / 133	15 / 133	10 / 88.5
Maximum Break Torque (Nm/in-lbs.)	20 / 177	20 / 177	20 / 177
On/Off Duty Rating %	75	75	75
Modulating Duty Rating %	100	100	100
IP Rating—IEC 60529	IP67	IP67	IP67
Working Angle Standard	90°/180°	90°/180°	90°/180°
Application	Indoor **	Indoor**	Indoor**
Temperature Range (°F / °C)	-4 to 122 / -20 to 50	-4 to 122 / -20 to 50	-4 to 122 / -20 to 50
Anti-Condensation Heater (W)	3.5	3.5	3.5
Input Power (@24VDC)max	35 W	35 W	35 W
Current Full Load: 24Vdc, 24Vac 1p 50/60Hz, 110-240Vac 1ph 50/60Hz	1.4 A, 1.5 A, 0.3 - 0.15 A	1.4 A, 1.5 A, 0.3 - 0.15 A	1.4 A, 1.5 A, 0.3 - 0.15 A
Discrete Control Input	Input Power	Input Power	Input Power
Analog Control Input		0-10V,2-10V,0-20mA,4-20mA	0-10V,2-10V,0-20mA,4-20mA
Discrete Output (Volt Free)	Relay (ON/OFF)	Relay (Programmable)	Relay (Programmable)
Discrete Output Activation offset	approx. 5°	approx. 5°	approx. 5°
Analog Control Output	—	0-10V,2-10V,0-20mA,4-20mA	0-10V,2-10V,0-20mA,4-20mA
Analog Control Impedance	—	6.1 KOhm	6.1 KOhm
Analog Load Impedance	—	50 KOhm (V) - 600 Ohm (A)	50 KOhm (V) - 600 Ohm (A)
Max Current per Discrete Output (Resistive)	4 A	4 A	4 A
Max Voltage per Discrete Output	240 VAC/DC	240 VAC/DC	240 VAC/DC
Resistance per Discrete Output	25 mOhm	25 mOhm	25 mOhm
Communication Control IN/OUT	—	MODBUS RS 485	MODBUS RS 485
Comm. Baud Rate	—	9600, 19200, 57600 Baud	9600, 19200, 57600 Baud
Comm Available Registers	—	12	12
Local Signaling	Multicolor LED	Multicolor LED	Multicolor LED
Manual Remote Signaling	—	Supported**	Supported**
Event Scheduler	—	Supported**	Supported**
User Interface	—	OLED w/full navigation Keypad	OLED w/full navigation Keypad
Electrical Interconnections	Field Attachable Type A,C	Field Attachable Type A,C Customization Supported	Field Attachable Type A,C Customization Supported
Fail Safe	Supported***	Supported***	Supported***
Enclosure	GF-PP	GF-PP	GF-PP
Weight (kg/lbs)	1.25kg / 2.75 lbs.	1.25kg / 2.75 lbs.	1.25kg / 2.75 lbs.
Drive Socket	14 mm Double Square	14 mm Double Square	14 mm Double Square

*20 / 177 (Nm/ in-lbs.) available with voltage specific motors with extended cycle times; consult factory. ** Outdoor applications consult factory. ***Additional Module Required. Battery pack for Fail Safe operation is not operator replaceable. Consult factory.



AC (1ph) or DC SUPPLY –

WIRING FOR MODULATING ACTUATORS

FUNCTION: MODULATING VERSION

- Power open, power close – Actuator movement controlled by input signal (4-20mA or 0-10VDC)
- Standard Operation:
4mA or 0V = Actuator Closed, 20mA or 10V = Actuator Open (can be reversed)
- Standard Operation: Actuator closes on loss of control signal, stays put if loss of main power.
- Output signal provided as standard (in same format as supply signal)

NOTE: Wiring showing same supply as motor is only a suggestion, Read “Installation, Operation and Maintenance Instructions” before connecting.

NOTE: Fail-safe option is also available for modulating version.



Actuator power supply must be on a dedicated circuit and must be grounded.

WIRING ON/OFF FOR FAIL SAFE ACTUATORS

FUNCTION: ON/OFF VERSION

- Power open. power close
- Stays in place during power failure

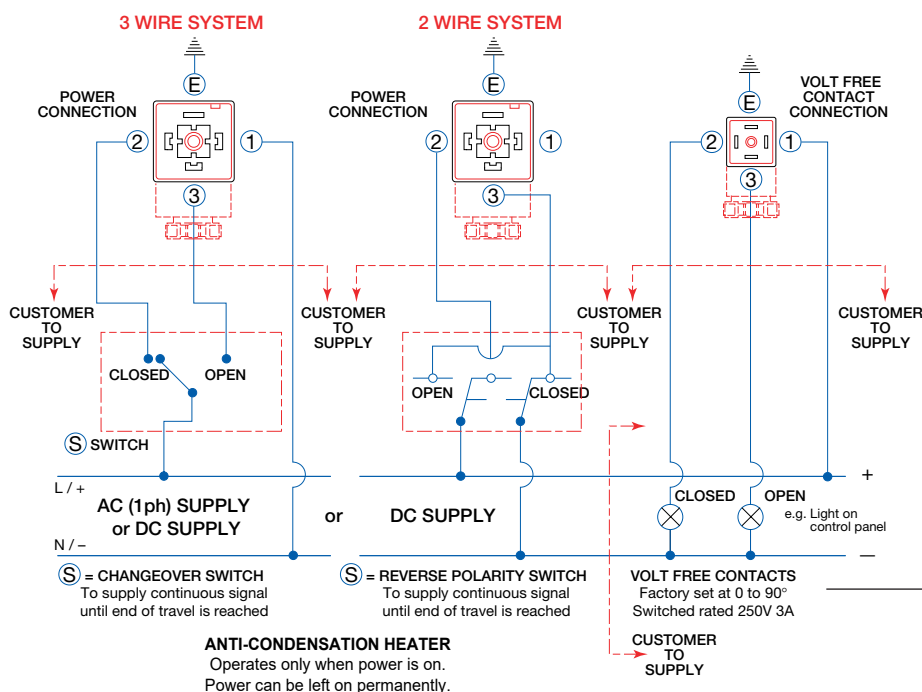
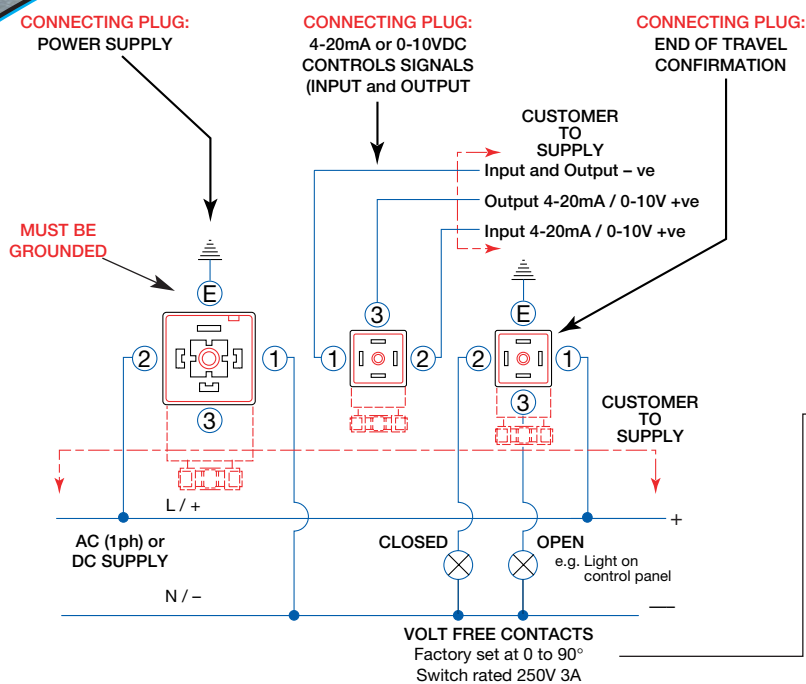
FUNCTION: FAIL-SAFE VERSION

- Power open, power close – Trickle charges battery in either open or closed position
- Actuator sent by battery power to preset fail safe position on power failure
- Actuator returns to pre-failure position on power resumption
- Fail-safe can be either NC (normally closed) or NO (normally open)

NOTE: Wiring showing same supply as motor is only a suggestion, Read “Installation, Operation and Maintenance Instructions” before connecting.



Volt free switches are set approximately 5° ahead of the final motor stop position. Do not use the signal from the volt free switches to cut the power to the motor, otherwise the actuator will not reach the full open or full closed position. The actuator is designed to have continuously energized power.



ANTI-CONDENSATION HEATER
Operates only when power is on.
Power can be left on permanently.



Actuator power supply must be on a dedicated circuit and must be grounded.

ALL DATA SUBJECT TO CHANGE

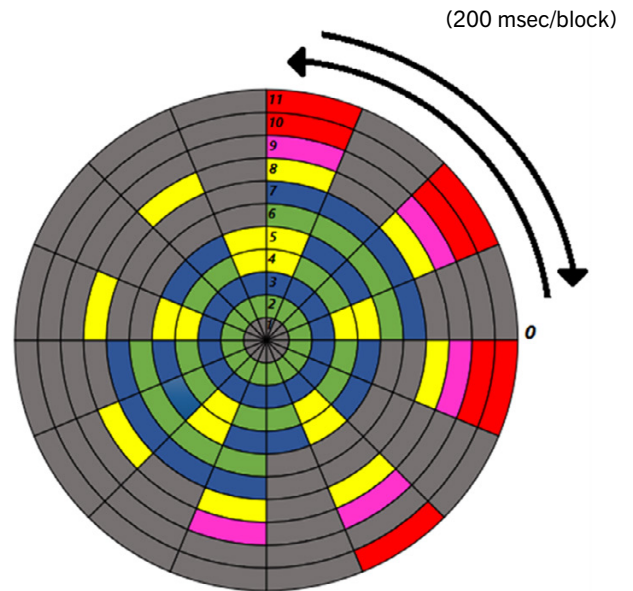


LED RING INDICATOR*

ON/OFF ACTUATOR

1. No power detected
2. In position open
3. In position close
4. Opening
5. Closing
6. Torque limit engaged, moving from close to open
7. Torque limit engaged, moving from open to close
8. Actuator in MANUAL or KEYPAD mode
9. Dual signal (third angle)
10. Over temperature
11. Overload

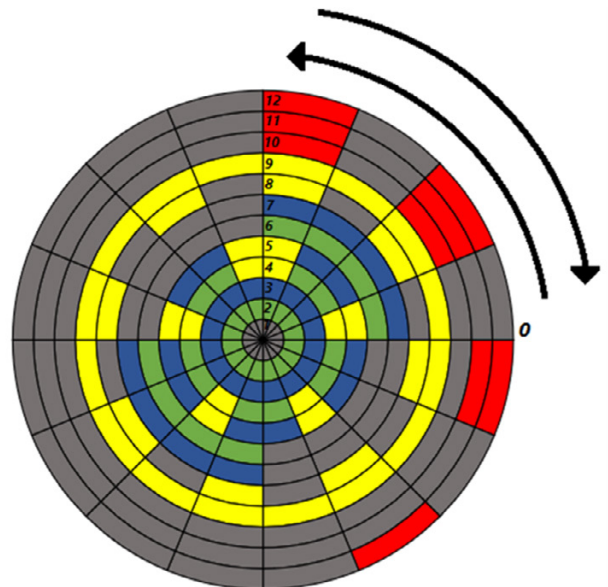
ACTUATOR OPERATIONAL STATUS



MODULATING ACTUATOR

1. No power detected
2. In position open
3. In position close
4. Opening
5. Closing
6. Torque limit engaged, moving from close to open
7. Torque limit engaged, moving from open to close
8. Actuator in MANUAL or KEYPAD mode
9. Actuation feedback complete
10. Signal loss
11. Over temperature
12. Overload

ACTUATOR OPERATIONAL STATUS



*Models sold in the EU feature single-point LED light

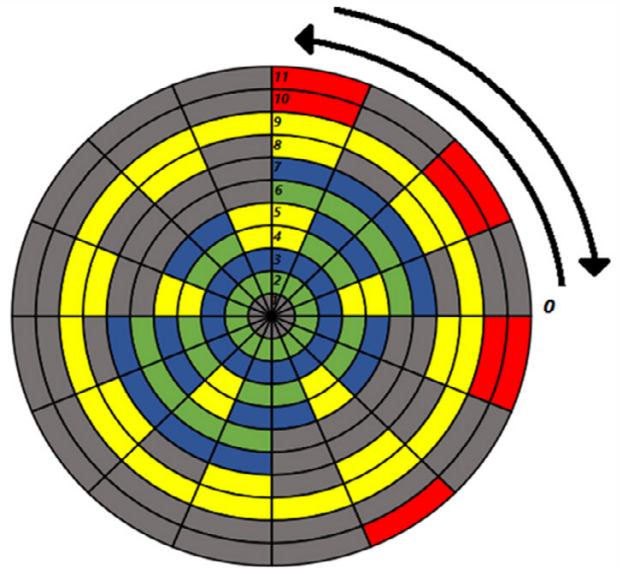


LED RING INDICATOR*

MODBUS ACTUATOR

1. No power detected
2. In position open
3. In position close
4. Opening
5. Closing
6. Torque limit engaged, moving from close to open
7. Torque limit engaged, moving from open to close
8. Actuator in MANUAL or KEYPAD mode
9. Actuator feedback complete
10. Over temperature
11. Overload

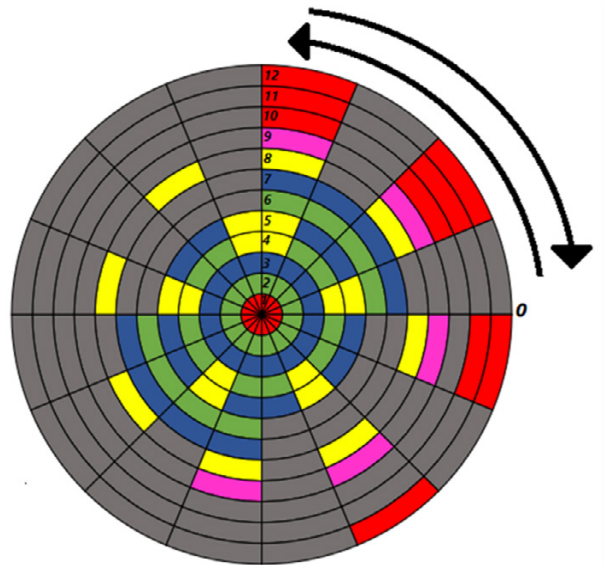
ACTUATOR OPERATIONAL STATUS



FAIL-SAFE ACTUATOR

1. No power detected; fail safe
2. In position open
3. In position close
4. Opening
5. Closing
6. Torque limit engaged, moving from close to open
7. Torque limit engaged, moving from open to close
8. Actuator in MANUAL or KEYPAD mode
9. Signal dual (third angle)
10. Signal loss
11. Over temperature
12. Overload

ACTUATOR OPERATIONAL STATUS



*Models sold in the EU feature single-point LED light



OLED DISPLAY

FEATURES:

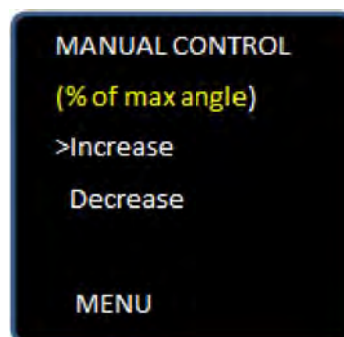
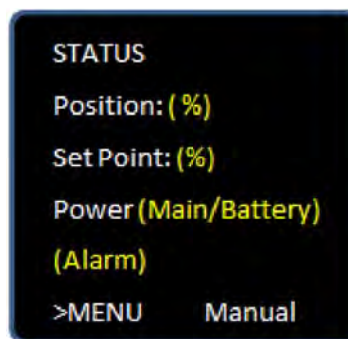
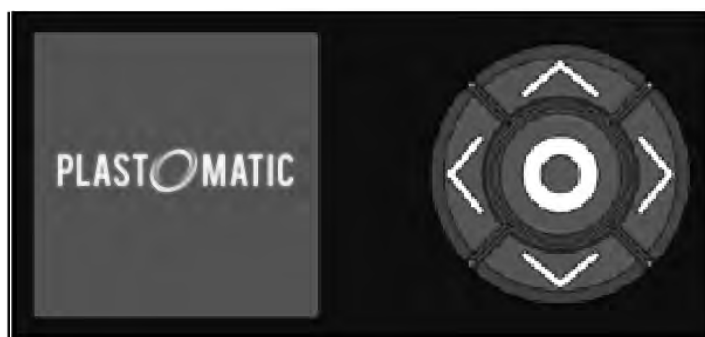
Each CAFE NITRO Actuator comes equipped with an OLED display and a full directional keypad, allowing the user to change actuator parameters and to manually control the actuator. Each specific model has its own software relating to its functionality distributed in four universal sub-menus. Alarms, Control, Language and Maintenance. Please refer to your model specific Menu Manual for more information.

STANDARD PARAMETERS INCLUDE:

- Reset Alarms
- Speed
- Dead Band
- Anticondensation
- Language English/Spanish
- Overload
- Drive
- Factory Settings
- Operation
- Power Loss
- Hardware Monitor
- Password
- Calibration
- Hysteresis
- Relay Output

MODEL SPECIFIC OPTIONS INCLUDE:

- Communication Loss
- Analog OUT
- Network
- Third Angle
- Analog IN
- Compensation
- Calendar



ORDERING INFORMATION

OVERVIEW:

Each model number has three positions to define the actuator, followed by at least four positions that define the valve. The number of characters used per position varies.

The example below represents a CAFE NITRO 90° actuator with

OLED screen and keypad, that accepts 24-240 volts AC or DC, and is equipped with 4-20 mA control. It is mounted to a 1/2" PVC ball valve with Viton seals, NPT connections, and an optional linear flow cut ball: CAFEN1-3-050VT-PV-CLF.

CAFEN	1	—	3	—	050	V	T	—	PV	—	CLF
Actuator Model	Actuator Type Size/Voltage		Control Options		Valve Pipe Size	Seal Material	Connection Type		Body Material		Ball Options
	1 – 2-way, 3/8"-2", 24-240 AC/DC					V – Viton			PV – PVC		
	5 – 3-Way, 3/8"-2", 24-240 AC/DC				037 – 3/8"	EP – EPDM			CP – CPVC		
			1 – ON/OFF		050 – 1/2"		S – IPS Socket		PP – Natural Polypro		
			2 – ON/OFF w/ Failsafe		075 – 3/4"		T – NPT Threads		PF – PVDF		
			3 – 4-20mA		100 – 1"		BSP – BSPT Threads		RPF – Red PVDF		
CAFE – 2-Way (90°), Standard Speed (5s), No OLED Display			4 – 4-20mA w/ Failsafe		125 – 1-1/4"		FL – ANSI 150 Flanges				A – 3-Hole Ball (3-Way Only)
CAFEN – 2-Way (90°), Standard Speed (5s), Includes OLED Display			5 – 0-10VDC		150 – 1-1/2"		SP1 – Asahi Metric Spigot (PP & PF Only)				C1 – 15° V-Cut Ball*
CAFEF – 2-Way (90°), High Speed (1s), Includes OLED Display			6 – 0-10VDC w/ Failsafe		200 – 2"		SP2 – GF+ Metric Spigot (PP & PF Only)				C3 – 30° V-Cut Ball*
TCAFE – 3-Way (180°), Standard Speed (10s), No OLED Display			7 – Modbus		20 – 20mm		SP3 – SCH. 80 Spigot (Not available w/RPF)				C4 – 45° V-Cut Ball*
TCAFEN – 3-Way (180°), Standard Speed (10s), Includes OLED Display			8 – Modbus w/ Failsafe		25 – 25mm		SC – Sanitary Tri-Clamp (PP & PF Only)				C6 – 60° V-Cut Ball*
TCAFEF – 3-Way (180°), High Speed (2s), Includes OLED Display					32 – 32mm						C9 – 90° V-Cut Ball*
					40 – 40mm						CLF – Linear Flow Ball
					50 – 50mm						Vent – Vented Ball
					63 – 63mm						Leave blank and eliminate the preceding dash if no ball options are needed.
											*C1-C9 are special order; consult factory.

NOTES:

2-Way base model CAFE is only available as CAFEN1-1 or CAFEN1-2
 3-Way base model TCAFE is only available as TCAFE5-1
 NITRO 5 second actuators can be adjusted via OLED screen between 5-10 seconds
 FAST 1 second actuators can be adjusted via OLED screen between 1-5 seconds
 Models sold in the EU feature single-point LED light

ADDITIONAL OPTIONS/CONSULT FACTORY:

- Other electrical connections available
- Standard actuators use relay for feedback. CAFEN/F or TCAFEN/F can be programmed to utilize Modbus to provide real time monitoring of system parameters
- Real-time status reporting when actuator is set to manual mode
- CHRONOS Option: Real-Time Clock / Event planner available for all CAFEN & CAFEF models. Add "C" after model prefix, CAFENC or CAFEFC. Consult factory for pricing and specifications.

