



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

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

CAFE NITRO FEATURES

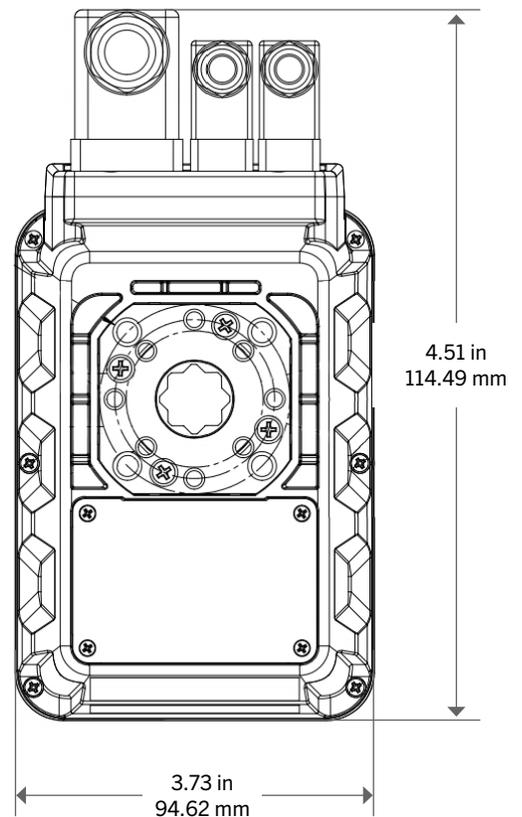
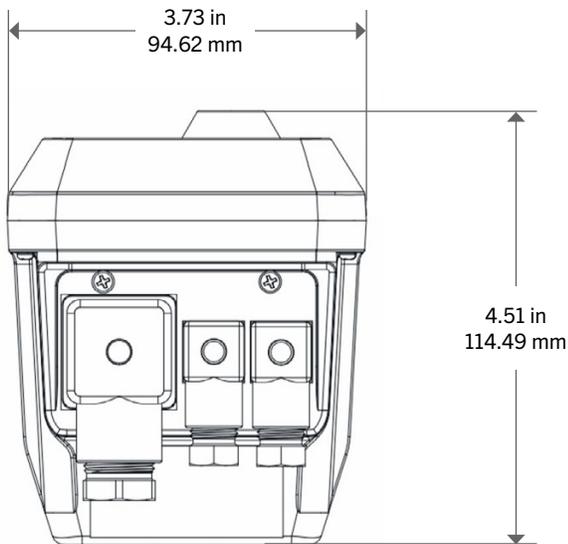
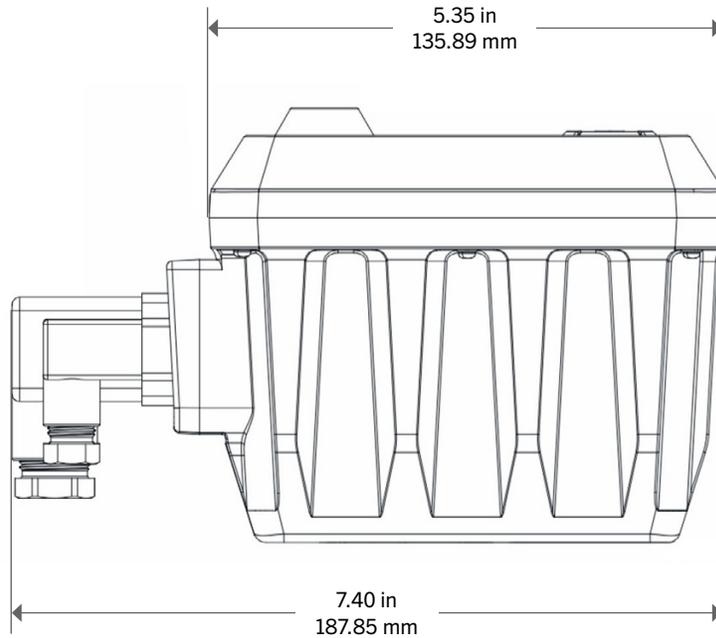
- Includes all features of CAFE, plus...
- OLED screen
- Over-torque & over-temperature alarms
- (0-20, 4-20) mA or (0-10, 2-10) V DC proportional closed loop control options
- Differential input/output proportional closed loop control options
- Proportional Control Loop with over voltage and overcurrent 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

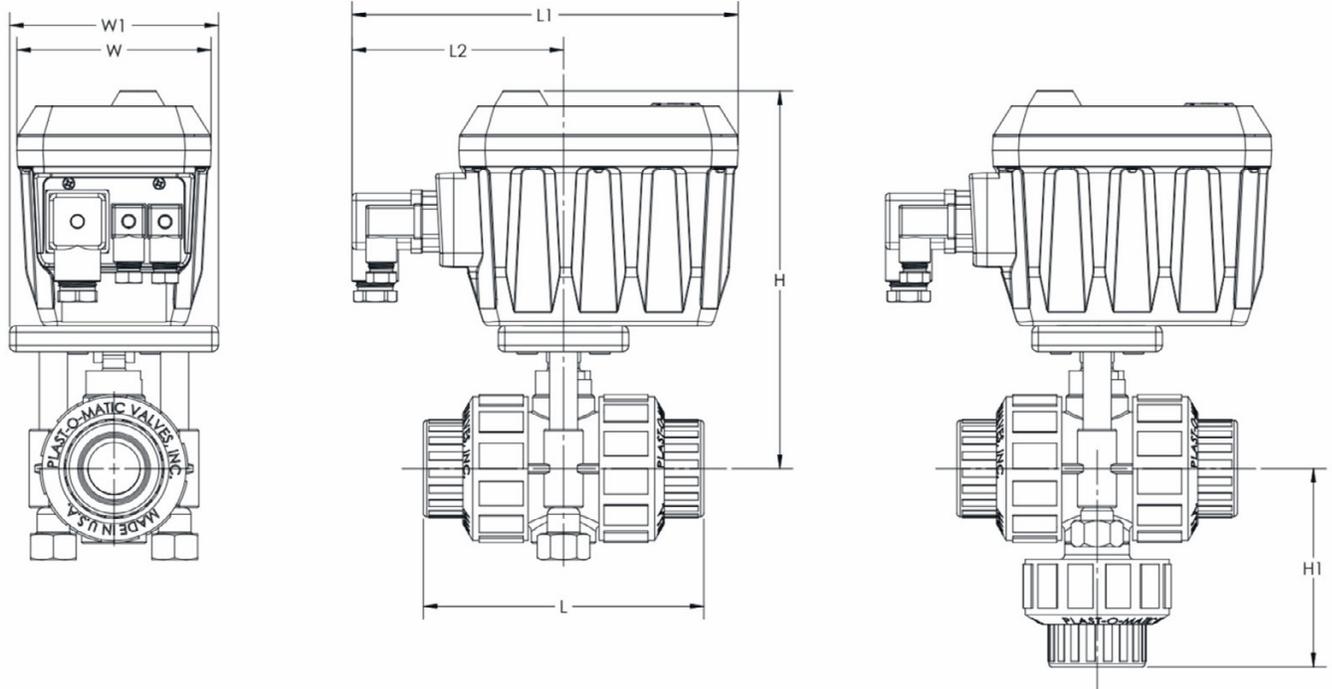
- Range of 90° working time programmable from 1 - 5 seconds
- Includes all features/options of CAFE NITRO



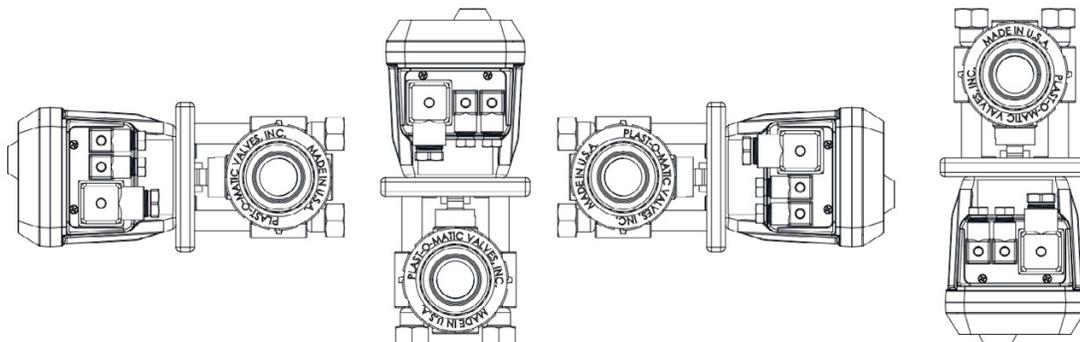
DIMENSIONS



DIMENSIONS



| MODEL | SIZE | | L | | L1 | | L2 | | H | | H1 | | W | | W1 | |
|----------------|------|----|------|-------|------|-------|------|-------|------|-------|------|-------|------|------|------|-------|
| | IN | DN | 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

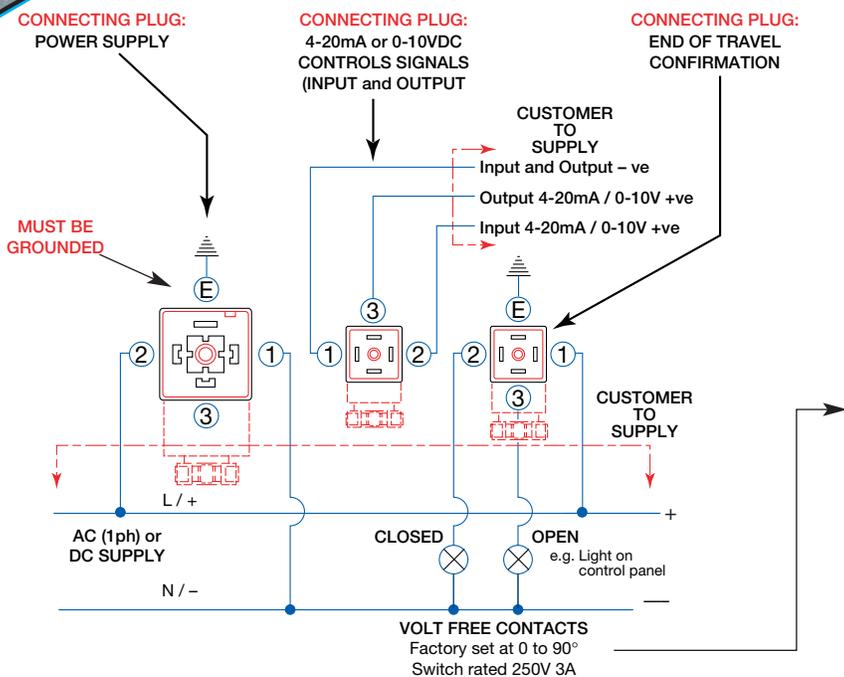
| Actuator | CAFE | CAFE NITRO | CAFE FAST |
|--|-----------------------------|---|---|
| Input Voltage (+1.1 V _R / -0.85 V _R) | 24 Vdc, 24 Vac, 110-240 Vac | 24 Vdc, 24 Vac, 110-240 Vac | 24 Vdc, 24 Vac, 110-240 Vac |
| Frequency | DC, 50Hz/60Hz | DC, 50Hz/60Hz | DC, 50Hz/60Hz |
| Working Time 0-90° 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

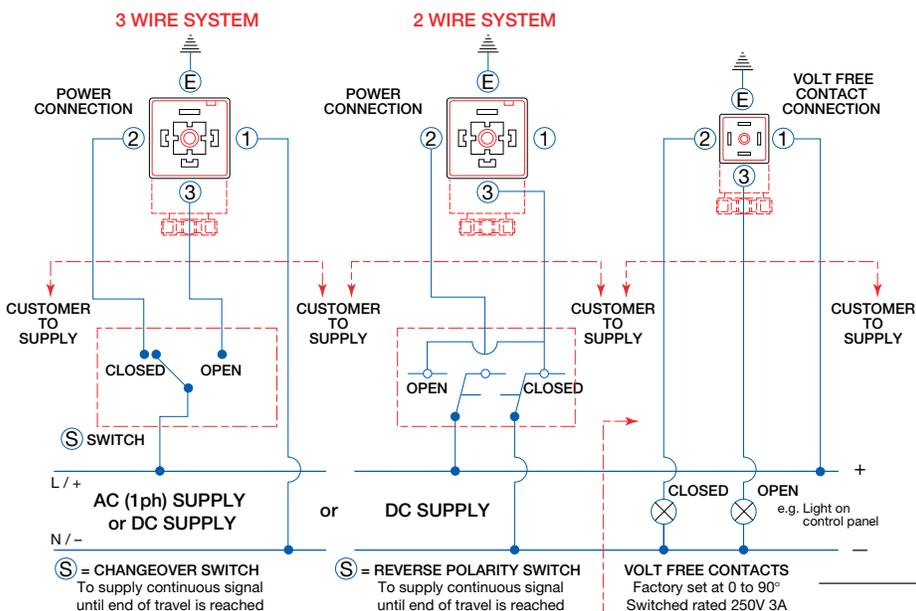
FUNCTION: FAIL-SAFE VERSION

- 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



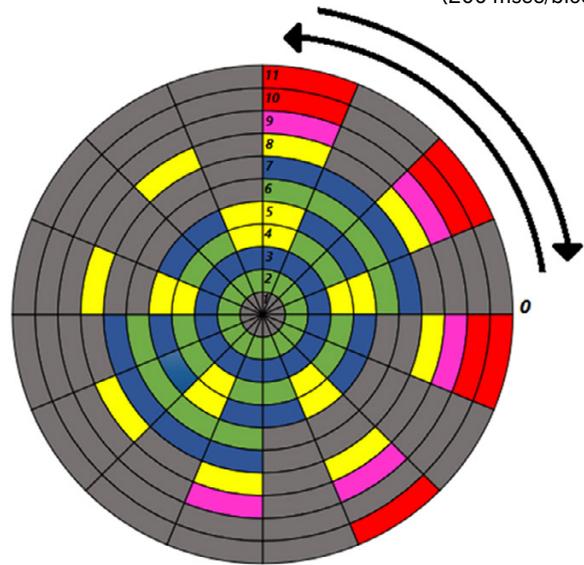
LED RING INDICATOR

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

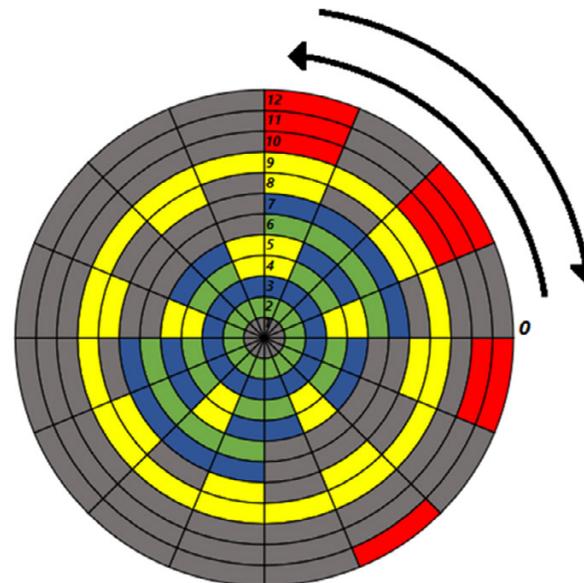
(200 msec/block)



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

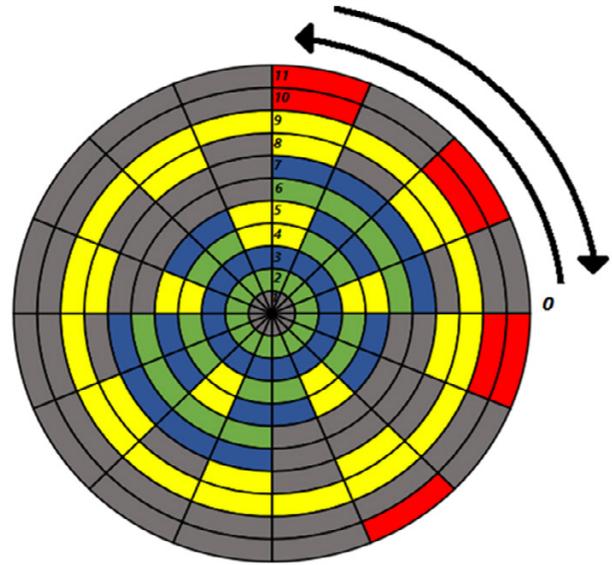


LED RING INDICATOR

MODBUS ACTUATOR

ACTUATOR OPERATIONAL STATUS

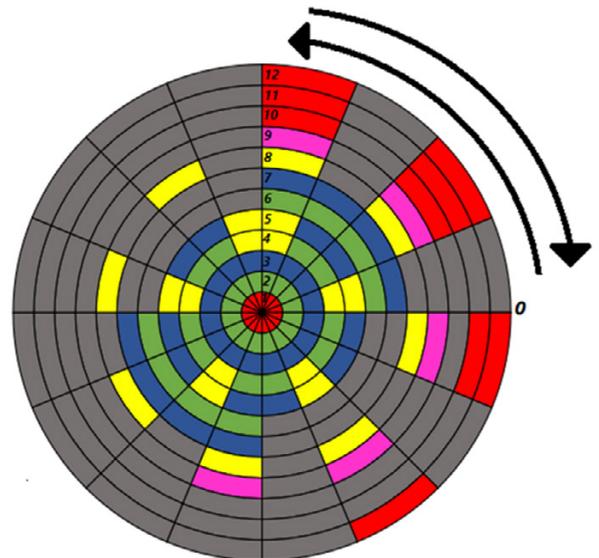
1. No power detected
2. In position open
3. In position close
4. Opening
5. Closing
6. Torque limit engaged, moving from close to open
7. Torque limit engaged, moving from open to close
8. Actuator in MANUAL or KEYPAD mode
9. Actuator feedback complete
10. Over temperature
11. Overload



FAIL-SAFE ACTUATOR

ACTUATOR OPERATIONAL STATUS

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



OLED DISPLAY

FEATURES:

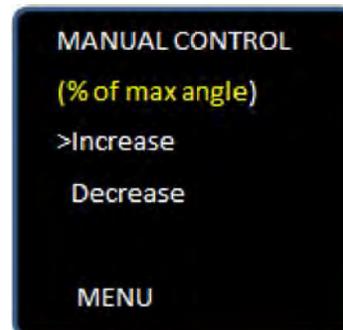
Each CAFE NITRO Actuator comes equipped with an OLED display and a full directional keypad, allowing the user to change actuator parameters and to manually control the actuator. Each specific model has its own software relating to its functionality distributed in four universal sub-menus. Alarms, Control, 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 5 – 3-Way, 3/8"-2", 24-240 AC/DC | | | V – Viton EP – EPDM | | PV – PVC CP – CPVC PP – Natural Polypro PF – PVDF RPF – Red PVDF | |
| | | 1 – ON/OFF 2 – ON/OFF w/ Failsafe 3 – 4-20mA 4 – 4-20mA w/ Failsafe 5 – 0-10VDC 6 – 0-10VDC w/ Failsafe 7 – Modbus 8 – Modbus w/ Failsafe | 037 – 3/8" 050 – 1/2" 075 – 3/4" 100 – 1" 125 – 1-1/4" 150 – 1-1/2" 200 – 2" 20 – 20mm 25 – 25mm 32 – 32mm 40 – 40mm 50 – 50mm 63 – 63mm | | S – IPS Socket T – NPT Threads BSP – BSPT Threads FL – ANSI 150 Flanges SP1 – Asahi Metric Spigot (PP & PF Only) SP2 – GF+ Metric Spigot (PP & PF Only) SP3 – SCH. 80 Spigot (Not available w/RPF) SC – Sanitary Tri-Clamp (PP & PF Only) | | A – 3-Hole Ball (3-Way Only) C1 – 15° V-Cut Ball* C3 – 30° V-Cut Ball* C4 – 45° V-Cut Ball* C6 – 60° V-Cut Ball* C9 – 90° V-Cut Ball* CLF – Linear Flow Ball Vent – Vented Ball |
| CAFE – 2-Way (90°), Standard Speed (5s), No OLED Display | | | | | | | |
| CAFEN – 2-Way (90°), Standard Speed (5s), Includes OLED Display | | | | | | | |
| CAFEF – 2-Way (90°), High Speed (1s), Includes OLED Display | | | | | | | |
| TCAFE – 3-Way (180°), Standard Speed (10s), No OLED Display | | | | | | | |
| TCAFEN – 3-Way (180°), Standard Speed (10s), Includes OLED Display | | | | | | | |
| TCAFEF – 3-Way (180°), High Speed (2s), Includes OLED Display | | | | | | | |

NOTES:

2-Way base model CAFE is only available as CAFEN1-1 or CAFEN1-2
3-Way base model TCAFE is only available as TCAFEN5-1
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

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 CAFEFEC. Consult factory for pricing and specifications.

Leave blank and eliminate the preceding dash if no ball options are needed.

*C1-C9 are special order; consult factory.

