C22 Pilot Devices

Clean. Compact. Complete.

C22 pilot devices offer clean installation, compact design and a complete selection of operators for virtually any industrial application.

EATON
Powering Business Worldwide

C22

Clean
Compact
Complete

Clean Installation.

Reduce installation time with C22's simple, central nut application. Contacts are built into the barrel eliminating separate contact blocks and lamp elements.

Compact Design.

The line features a 22mm monoblock design with an "all in one" housing that includes contacts and lamp elements.

Complete Offering.

C22 monoblock pilot devices offer a broad selection of operators, functionality and features, exceeding what is typical for this class of device.

The C22 line features monoblock construction with built-in contacts for a clean, simple installation. The 22mm design is compact, yet offers the same pressable area as 30mm buttons. Choose from a broad selection of standard operators, including keyed switches and two sizes of emergency stops, both keyed and non-keyed. Laser etching of button plates is also available for custom applications.

Innovative design

C22 pilot devices are modeled after our modern M22 line. Graceful curves, clean lines and two styles of colored bezels, titanium and black, provide a distinguished look to make your panel stand out. In addition, the two lines share many common parts and accessories that make the C22 even more flexible and complete.

Rugged

C22 standard buttons have a mechanical lifespan up to five million operations. That's equivalent to performing one ON/OFF cycle every minute for over 9.5 years. They can also operate in ambient temperatures between –25°C and +70°C (–13°F to 158°F) for use in the harshest environments. Illuminated operators are all equipped with LED bulbs with life spans up to 100,000 hours.

High environmental ratings

Most front elements have a minimum IP67 (NEMA 4X, 13) environmental rating, protecting them against water immersion to one meter. Many standard operators also have the more stringent IP69K ratings, protecting them from submersion and high pressure/ temperature wash down environments.

IP69K
ENVIRONMENTAL
rating

Broad selection

The new C22 line includes a broad selection, exceeding what is typical for this class of device:

1. **Flush, non-illuminated pushbutton** – momentary and maintained. Maintained are field convertible to momentary.
2. **Extended, non-illuminated pushbutton** – momentary and maintained. Maintained are field convertible to momentary.
3. **Flush and extended illuminated pushbutton** – momentary and maintained. Maintained are field convertible to momentary.
4. **Pilot lights** – with LED illumination.
5. **Keyed two and three position selector switches** – momentary and maintained; Momentary are field convertible to maintained; 40 and 60 degree return; Eleven different keys available.
6. **Twist-and-Release Emergency Stops** – 45 and 60mm; keyed and non-keyed; Eleven different keys available. LED light ring available for high visibility in mission critical applications.

1

2

3

4

5

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Available contact block configurations

Standard and extended pushbuttons; two position selector switches

 1 NO

 1 NC

 1 NO / 1 NC

 2 NO

 2 NC

Three position selector switches

 1 NO

 1 NO / 1 NC

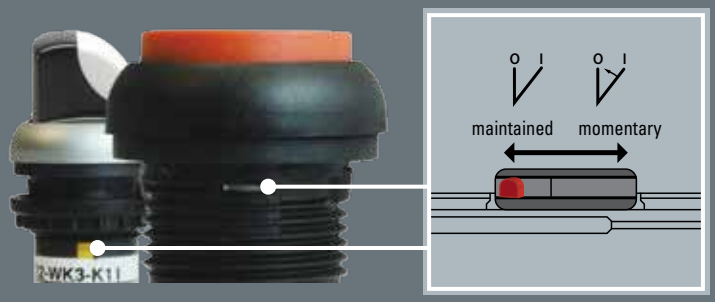
 2 NO

 2 NC

Emergency stop

 1 NO / 1 NC

 2 NC



Reduce inventories

Unique to Eaton's 22mm pilot devices is the ability to convert a button's functionality in the field. Maintained pushbuttons can be converted to momentary with the flick of a switch, while momentary selector switches can be converted to maintained. This flexibility adds tremendous advantage over dedicated-function devices currently on the market. Inventories are reduced and functionality is increased.

C22 Pilot Devices			Pushbutton Actuators: Momentary	Pushbutton Actuators: Maintained	Indicator Lights	Selector Switches	Keyed Operators (Inc. E-Stops)	Non-keyed Emergency Stop Actuators
General								
Standards					IEC/EN 60947 VDE 0660			
Mechanical lifespan	Operations	x 10^6	5	1	–	1	0.1	0.05
Operating frequency	Operations/h		≤ 3600	≤ 3600	–	≤ 2000	≤ 100	≤ 300
Actuating force		N	5	5	–	–	–	50
Operating torque		Nm	–	–	–	0.3	0.5	–
Terminal screw tightening torque		Nm	0.8	0.8	0.8	0.8	0.8	0.8
Threaded ring tightening torque		Nm	2	2	2	2	2	2
Protection type			IP67, IP69K	IP67, IP69K	IP67, IP69K	IP65	IP66	IP67, IP69K
Climatic proofing			Damp heat, constant, to IEC 60068-2-78; Damp heat, cyclic, to IEC 60068-2-30					
Ambient temperature								
Open		°F (°C)	-13 to 158 (-25 to 70)	-13 to 158 (-25 to 70)	-13 to 158 (-25 to 70)	-13 to 158 (-25 to 70)	-13 to 158 (-25 to 70)	-13 to 158 (-25 to 70)
Storage		°F (°C)	-22 to 176 (-30 to 80)	-22 to 176 (-30 to 80)	-22 to 176 (-30 to 80)	-22 to 176 (-30 to 80)	-22 to 176 (-30 to 80)	-22 to 176 (-30 to 80)
Mounting position			As required	As required	As required	As required	As required	As required
Mechanical shock resistance to IEC 60068-2-27 Shock duration 11 ms, half-sinusoidal		g	30	30	30	30	30	30
Terminal capacities								
Solid		mm^2	2x (0.5 – 1.5)	2x (0.5 – 1.5)	2x (0.5 – 1.5)	2x (0.5 – 1.5)	2x (0.5 – 1.5)	2x (0.5 – 1.5)
Flexible with ferrule		mm^2	2x (0.5 – 1.5)	2x (0.5 – 1.5)	2x (0.5 – 1.5)	2x (0.5 – 1.5)	2x (0.5 – 1.5)	2x (0.5 – 1.5)
Contacts								
Rated impulse withstand voltage	U_{imp}	V AC	4000	4000	4000	4000	4000	4000
Rated insulation voltage	U_i	V	250	250	250	250	250	250
Overvoltage category / pollution degree			III/3	III/3	III/3	III/3	III/3	III/3
Control circuit reliability								
at 5V DC/1 mA	H_F	Fault probability	Statistically determined 1 failure per 5 x 10^6 operations		–	Statistically determined 1 failure per 5 x 10^6 operations		
at 17V DC/7 mA	H_F	Fault probability	NO contact: statistically determined 1 failure per 1.7 x 10^7 operations NC contact: statistically determined 1 failure per 0.9 x 10^7 operations		–	NO contact: statistically determined 1 failure per 1.7 x 10^7 operations NC contact: statistically determined 1 failure per 0.9 x 10^7 operations		
at 24V DC/5 mA	H_F	Fault probability	NO contact: statistically determined 1 failure per 1.7 x 10^7 operations NC contact: statistically determined 1 failure per 0.9 x 10^7 operations		–	NO contact: statistically determined 1 failure per 1.7 x 10^7 operations NC contact: statistically determined 1 failure per 0.9 x 10^7 operations		
Max. short-circuit protective device								
Fuse		gG/gL	10	10	–	10	10	10
Switching capacity								
Rated operational current								
AC-15								
24V	I_e	A	4	4	–	4	4	4
110V	I_e	A	2	2	–	2	2	2
230V	I_e	A	1.5	1.5	–	1.5	1.5	1.5
DC-13								
24V	I_e	A	3	3	–	3	3	3
60V	I_e	A	1	1	–	1	1	1
110V	I_e	A	0.6	0.6	–	0.6	0.6	0.6
220V	I_e	A	0.3	0.3	–	0.3	0.3	0.3
Electrical lifespan								
AC-15								
230V / 0.5A	Operations	x 10^6	0.4	0.4	–	0.4	0.4	0.4
230V / 1.0A	Operations	x 10^6	0.6	0.6	–	0.6	0.6	0.6

Contact travel diagram

■ Contact closed □ Contact open

Eaton Corporation
Electrical Sector
1111 Superior Ave.
Cleveland, OH 44114
United States
877-ETN-CARE (877-386-2273)
Eaton.com

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