



Command Illuminated 22mm Metal and Plastic Pushbuttons



AR22F0L-10E3YZA



AR22F5L-10L3SZA



AR22E0L-10E3GZA



AR22V5L-01L3R



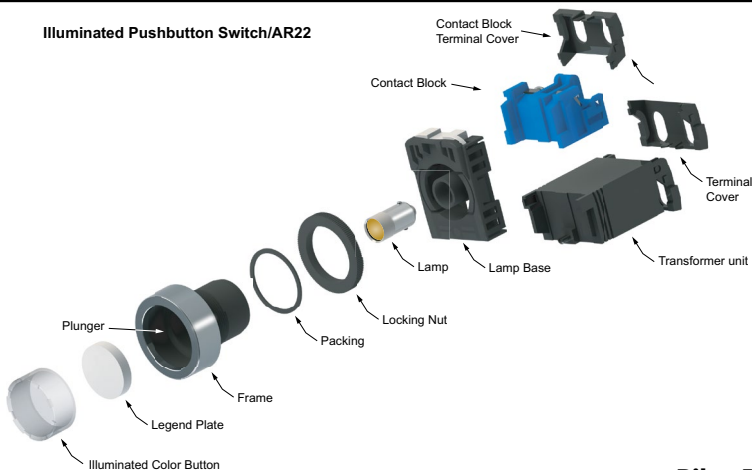
AR22M0L-01E3RZA



AR22M0L-01L3RZA

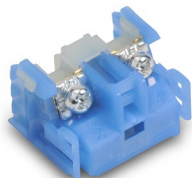
Command LED Illuminated 22mm Pushbuttons							
Part Number	Color	Price	Drawing Link	Operator	Material	Lamp Voltage	Contacts
AR22F0L-01E3RZA	Red	\$26.50	PDF	30mm momentary flush round head	Metal	24 VAC/VDC (without transformer)	N.C.
AR22F0L-10E3GZA	Green	\$26.50	PDF				N.O.
AR22F0L-10E3YZA	Yellow	\$26.50	PDF				N.O.
AR22F0L-10E3SZA	Blue	\$34.00	PDF				N.O.
AR22F0L-10E3WZA	White	\$25.00	PDF				N.O.
AR22F0L-01L3RZA	Red	\$34.50	PDF			115-127 VAC (with transformer)	N.C.
AR22F0L-10L3GZA	Green	\$34.50	PDF				N.O.
AR22F0L-10L3YZA	Yellow	\$34.50	PDF				N.O.
AR22F0L-10L3SZA	Blue	\$38.00	PDF				N.O.
AR22F0L-10L3WZA	White	\$34.50	PDF				N.O.
AR22F5L-10E3RZA	Red	\$33.00	PDF	30mm push-push flush round head	Metal	24 VAC/VDC (without transformer)	N.O.
AR22F5L-10E3GZA	Green	\$33.00	PDF				N.O.
AR22F5L-10E3YZA	Yellow	\$33.00	PDF				N.O.
AR22F5L-10E3SZA	Blue	\$33.00	PDF				N.O.
AR22F5L-10E3WZA	White	\$33.00	PDF				N.O.
AR22F5L-10L3RZA	Red	\$38.00	PDF			115-127 VAC (with transformer)	N.O.
AR22F5L-10L3GZA	Green	\$38.00	PDF				N.O.
AR22F5L-10L3YZA	Yellow	\$38.00	PDF				N.O.
AR22F5L-10L3SZA	Blue	\$38.00	PDF				N.O.
AR22F5L-10L3WZA	White	\$38.00	PDF				N.O.
AR22E0L-01E3RZA	Red	\$21.50	PDF	30mm momentary extended round head	Metal	24 VAC/VDC (without transformer)	N.C.
AR22E0L-10E3GZA	Green	\$21.50	PDF				N.O.
AR22E0L-10E3YZA	Yellow	\$21.50	PDF				N.O.
AR22E0L-10E3SZA	Blue	\$34.50	PDF				N.O.
AR22E0L-10E3WZA	White	\$21.50	PDF				N.O.
AR22E0L-01L3RZA	Red	\$29.50	PDF			115-127 VAC (with transformer)	N.C.
AR22E0L-10L3RZA	Red	\$29.50	PDF				N.O.
AR22E0L-10L3GZA	Green	\$29.50	PDF				N.O.
AR22E0L-10L3YZA	Yellow	\$29.50	PDF				N.O.
AR22E0L-10L3SZA	Blue	\$38.00	PDF				N.O.
AR22E0L-10L3WZA	White	\$33.00	PDF	N.O.			
AR22M0L-01E3RZA	Red	\$25.00	PDF	40mm momentary mushroom head	Metal	24 VAC/VDC (without transformer)	N.C.
AR22M0L-01L3RZA	Red	\$31.00	PDF			115-127 VAC (with transformer)	N.C.
AR22V5L-01E3R	Red	\$25.00	PDF	40mm push-lock, twist release, with white arrow	Plastic	24 VAC/VDC (without transformer)	N.C.
AR22V5L-01L3R	Red	\$39.00	PDF			115-127 VAC (with transformer)	N.C.

Illuminated Pushbutton Switch/AR22





Accessories for 22mm Command Series Pilot Devices

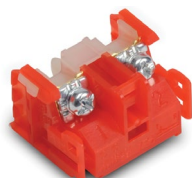


AR9B290

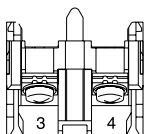
Contact Blocks for Command Series 22mm Pushbuttons					
Part Number	Qty	Price	Drawing Link	Color	Contacts
AR9B290	1	\$7.25	PDF	Blue	N.O.
AR9B291	1	\$7.25	PDF	Red	N.C.

Minimum current requirement AC/DC is 5 mA

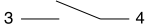
Terminal Layout



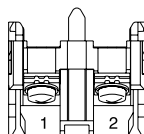
AR9B291



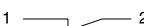
Terminal No.3, 4



AR9B290



Terminal No.1, 2



AR9B291

Max 6 contacts for non-illuminated momentary devices. Max 4 for alternate action non-illuminated devices. Max 5 contacts for illuminated momentary devices. Max 3 for alternate action illuminated devices. *Exceeding the maximum number of contacts could affect the mechanical durability of the operators.

LED Bulbs for Command Series 22mm Pilot Devices								
Part Number	Color	Qty	Price	Use With	Lamp Voltage	Current Consumption	Power Consumption	Lamp Durability
APX510-24R	Red	2	\$18.50	AR22 / DR22 Series	24 VAC / VDC	12 mA AC / 11 mA DC	0.8 W	30,000h
APX510-24G	Green	2	\$18.50					
APX510-24Y	Yellow	2	\$18.50					
APX510-24S	Blue	2	\$68.00					
APX510-24O	Orange	2	\$18.50					



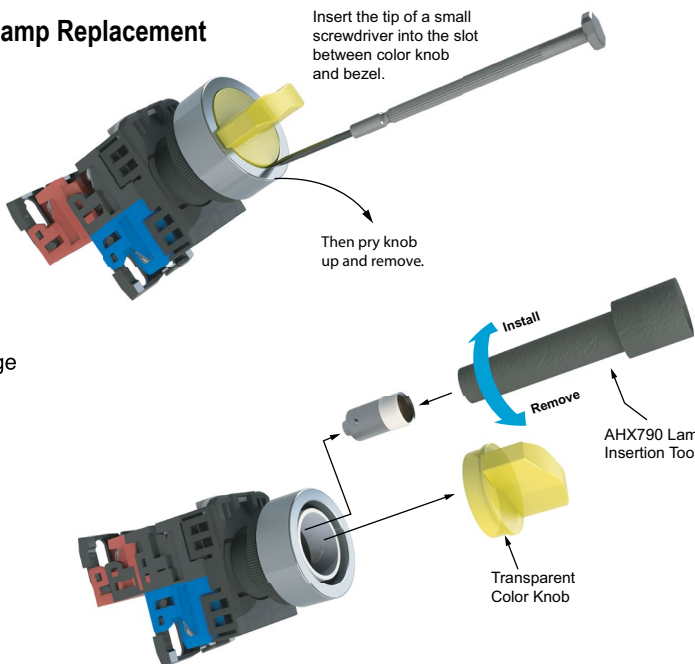
APX510-24R

*Lamp base: Ba9s/13

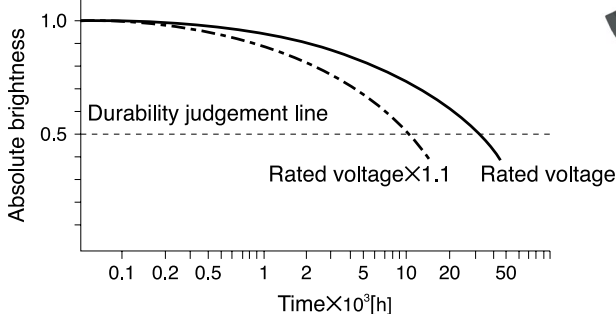
Lamp Replacement

Insert the tip of a small screwdriver into the slot between color knob and bezel.

Then pry knob up and remove.

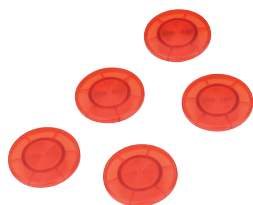


Estimated durability for LED lamps

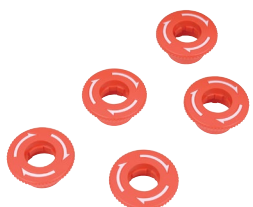


Notes: • Durability at Ta=25°C
• Durability is affected by temperature, humidity, and voltage fluctuation.

Accessories for 22mm Command Series Pilot Devices

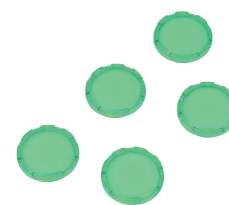


AR9C016-R

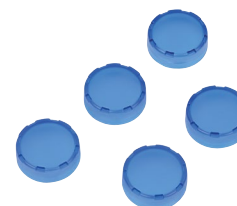


AR9C021-R

Lenses for Command Series 22mm Illuminated Pushbuttons					
Part Number	Color	Qty	Price	Drawing Link	Use With
AR9C016-R	Red	5	\$5.75	PDF	AR22MOL, AR22M5L
AR9C021-R	Red	5	\$17.50	PDF	AR22VOR, AR22VOL
AR9C011-R	Red	5	\$2.75	PDF	AR22FOL AR22F5L
AR9C011-G	Green	5	\$2.75	PDF	
AR9C011-Y	Yellow	5	\$2.75	PDF	
AR9C011-S	Blue	5	\$2.75	PDF	
AR9C011-C	Clear	5	\$2.75	PDF	AR22EOL
AR9C012-R	Red	5	\$2.75	PDF	
AR9C012-G	Green	5	\$2.75	PDF	
AR9C012-Y	Yellow	5	\$2.75	PDF	
AR9C012-S	Blue	5	\$2.75	PDF	
AR9C012-C	Clear	5	\$2.75	PDF	



AR9C011-G



AR9C012-S

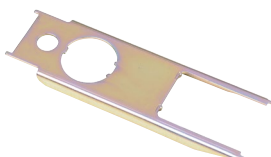
Tools and Lock Nut for Use with Command Series 22mm Pilot Devices				
Part Number	Qty	Price	Drawing Link	Description
AHX790	1	\$4.00	PDF	Bulb removal tool
AHX702	1	\$7.00	N/A	Wrench/lamp removal tool
AR9A004	1	\$5.75	N/A	Wrench
AR9R744	5	\$2.75	PDF	Lock nut



AHX790



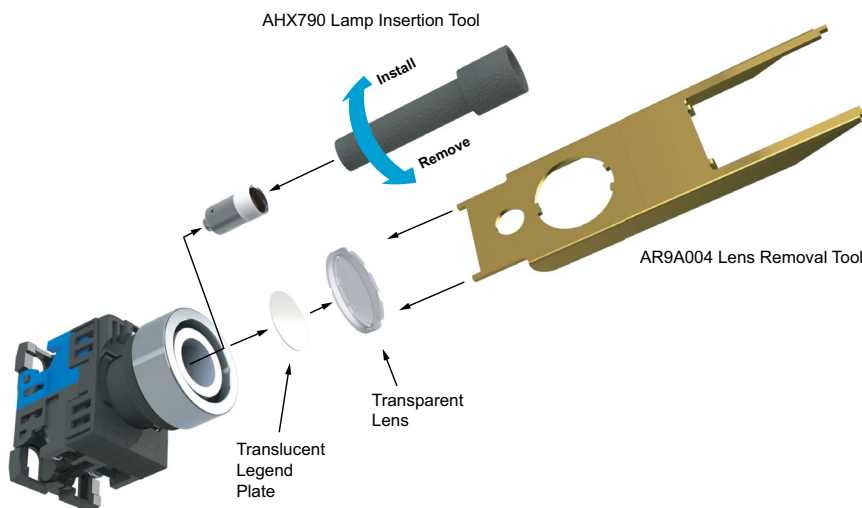
AHX702



AR9A004



AR9R744





Command Series 22mm Pilot Devices Specifications

Specifications (Indoor Use)			
	Pushbuttons Emergency stop pushbuttons Selector switches	Joysticks	Pilot Lights
Rated thermal current (contact block)	A600 / P600	-	-
Mechanical durability	See durability table below	250,000 operations	-
Electrical durability	500,000 operations at 220 VAC 6A 1 million operations at 220 VAC 3A	100,000 operations at 220 VAC 1A (Res. load)	-
Operating frequency	1200 operations/hour (On-load factor: 40%)		-
Operating force (Avg)	9N – Pushbuttons 30-45 N – Emergency stop pushbuttons 0.15 - 0.1 N·m – Selector switches	Less than 100N	
Positive opening operation	All functions incorporating a N.C. contact are positive-opening operation.		
Dielectric strength	2,500 VAC, 1 minute (w/o transformer 2000 VAC)	2000 VAC, 1 minute (Pilot light with transformer: 2500 VAC, 1minute)	
Insulation resistance	100 MΩ or more (500 VDC megger)		
Rated impulse dielectric strength	6 kV	-	6 kV
Conditional short-circuit current	1000A		-
Short-circuit protective device	Fuse 15A (recommended, not supplied)	Fuse 1A (recommended, not supplied)	-
Pollution degree	3		
Vibration	Resonance: 10 to 55 Hz, double amplitude 0.1mm* / Constant: 16.7 Hz, double amplitude 3mm		
Shock	Malfunction durability: 100 m/s ² ** /	Mechanical durability: 500 m/s ²	Mechanical durability: 500 m/s ²
Ambient temperature (no condensation or no icing)	-20 to +70 °C [-4 to +158 °F] Illuminated type: -20 to +50 °C [-4 to +122 °F]	-5 to +60°C [+23 to +140 °F]	-2 to +50 °C [-4 to +122 °F]
Temperature ratings	Storage: -40 to +80°C [-40 to +176 °F]		
Humidity	45 to 85% RH (within -5° to +40 °C)		
Degree of protection	IP65		
Initial contact resistance	≤ 50 mΩ	-	-
Terminal markings	IEC 60445	-	-
Connections	AWG 18 to AWG 14; Stripping length: 8mm to 11mm / Tightening torque: 0.8 to 1.0 N·m, 7.1 in-lb to 8.8 in-lb		
Contacts operation	Self-cleaning types. Slow action. Positive opening.		
Operation frequency	1,200 cycle/hour (Application ratio 40%)	-	-
Utilization category/contact ratings	AC-15: 24 VAC at 6A, 110 VAC at 6A DC-13: 24 VDC at 4A, 110 VDC at 1.3 A	AC-1: 110 VAC at 0.3 A DC-13: 24 VDC at 0.7 A, 110 VDC at 0.15 A	-
Rated insulation voltage	600 VAC/VDC***	250 VAC/VDC	250 VAC/VDC (w/transformer 600 VAC)
Materials	Enclosure: Polyamide / Contacts: silver, nickel		
Standards	UL 508, CSA C22.2, No.14, TUV - EN60947-5-1		
Approvals	UL file E44592, CSA file LR20479		

* Emergency stop type: 10 to 500 Hz, double amplitude 0.7mm(acceleration 50 m/s²), according to test condition of EN60947-5-5 (1998)

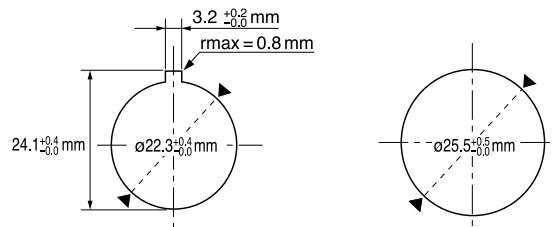
** Emergency stop type: 150 m/s² ***Illuminated type without transformer

Mechanical Durability		
		Operations
Pushbutton switch Illuminated pushbutton switch E-stop pushbutton switch E-stop illuminated pushbutton	Momentary action	5 million
	Alternate action	1 million
	Push-lock, turn-reset	100,000
	Push-lock, pull-reset	30,000
Selector switch	Maintained 1, 2, 3, 4-contact	1 million
	Maintained 5, 6-contact	500,000
	Spring return, spring/manual return	200,000
Illuminated selector switch	Maintained	
	Without transformer 1, 2, 3-contact	1 million
	4-contact	500,000
	With transformer 1, 2-contact	1 million
	3-contact	500,000
Spring return, spring/manual return	200,000	

Note: Key insertion/removal durability for selector switch key types • Key type 10,000

22mm Pilot Devices Cutouts

AR22 pilot devices can be mounted in either 22.3 or 25.5mm diameter holes as shown in the figure below without any extra adapter.

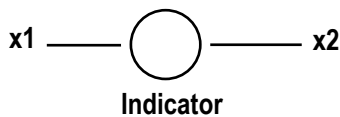
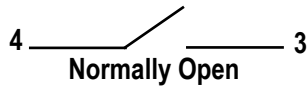


Note: If key washer or legend plate is not used, 3.2mm-wide location holes do not need to be cut out.

Fuji Electric NEMA Aux Contact Ratings

Control Circuit Contact Electrical Ratings and Wiring

Typical Wiring



NEMA Mechanical Switching Ratings and Test Values for DC Control Circuit Contacts					
Contact Rating Designation	Thermal Continuous Test Current (A)	Maximum Make or Break DC Current (A)			Volt amperes
		125 Volts	250 Volts	301 to 600 Volts	
P300	5.0	1.1	0.55	---	138
P600	5.0	1.1	0.55	0.20	138
Q300	2.5	0.55	0.27	---	69
Q600	2.5	0.55	0.27	0.10	69
R300	1.0	0.22	0.11	---	28

This chart is provided as a guideline only, and the ratings and values are not guaranteed to be accurate. It is the users' responsibility to properly size their control circuit devices. The chart values are from NEMA Standard ICS 5-2000, Table 1-4-2.

NEMA Mechanical Switching Ratings and Test Values for AC Control Circuit Contacts											
Contact Rating Designation	Thermal Continuous Test Current (A)	Maximum AC Current, 50/60 Hz (A)								Volt amperes	
		120 Volts		240 Volts		480 Volts		600 Volts			
		Make	Break	Make	Break	Make	Break	Make	Break	Make	Break
A300	10	60	6.00	30	3.00	---	---	---	---	7200	720
A600	10	60	6.00	30	3.00	15	1.50	12	1.20	7200	720
B300	5	30	3.00	15	1.50	---	---	---	---	3600	360
B600	5	30	3.00	15	1.50	7.5	0.75	6	0.60	3600	360
C600	2.5	15	1.5	7.5	0.75	3.75	0.375	3.00	0.30	1800	180

This chart is provided as a guideline only, and the ratings and values are not guaranteed to be accurate. It is the users' responsibility to properly size their control circuit devices. The chart values are from NEMA Standard ICS 5-2000, Table 1-4-1.

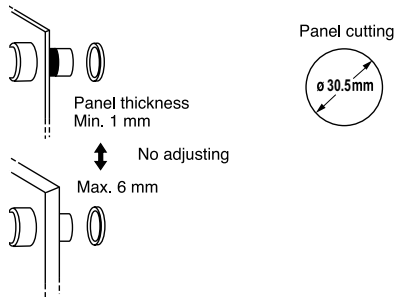
Fuji Electric 22mm Pilot Devices Overview

Pushbuttons, Selectors, Pilot Lights, Joysticks, Buzzers

Fuji Electric AR22 pilot devices can be mounted on panels up to 6mm thick by securing the operator with a locking nut from behind the panel without needing any adjustment.

Easy mounting

Fuji AR22 pilot devices can be mounted on panels between 1 and 6mm thick and are mountable in panel cutouts of 22.3 or 25.5mm. The button and lens can be mounted on a panel while the operator is engaged.



Pushbuttons



AR22F0R-01RZA

Illuminated Pushbuttons



AR22F0L-10E3YZA

Pilot Lights



DR22E3L-E3SZA

E-Stop Pushbuttons



AR22V0R-01R

Selector Switches



AR22PR-210BZA

Buzzers

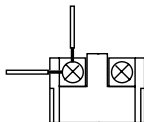


DR22B8-EB

Wiring

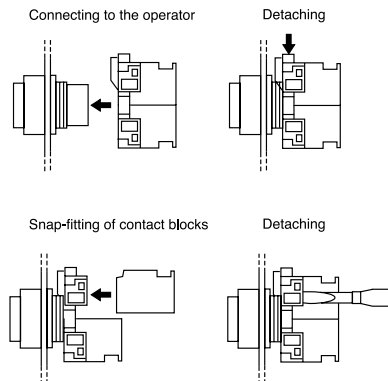
These pilot devices can be wired in both vertical and lateral directions making wiring in narrow spaces easier. Contact block color coding makes wiring even easier.

1N.O. Blue, 1N.C. Red
Lamp terminal and transformer unit: black



Quick contact block and transformer replacement

Fuji AR22 pilot devices have a snap-on mounting that makes replacing or adding a contact block and transformer unit easier.



Safety

AR22 pilot devices include terminal covers for added safety and security. Emergency stop pushbuttons include a trigger action mechanism that prevents the contacts from moving until the button is pushed and locked.

Protection

AR22 pilot devices feature oil and dust-tight operator construction (IP65), except for buzzers DR22B5 (IP00), DR22B8 (IP54).

Short depth

Fuji AR22 pilot devices are designed to occupy less space than traditional 22mm devices.

