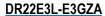
Fuji Electric Command 22mm Pilot Lights



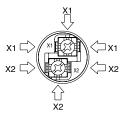




DR22E3L-L3SZA

	Command 22mm Pilot Lights									
Part Number	Color	Price	Drawing Link	Lens	Lamp Voltage					
DR22E3L-E3RZA	Red	\$-107I:	PDF							
DR22E3L-E3GZA	Green	\$107n:	PDF							
DR22E3L-E3YZA	Yellow	\$107o:	PDF		24V AC/DC without transformer					
DR22E3L-E3SZA	Blue	\$107p:	PDF							
DR22E3L-E3WZA	White	\$107q:	PDF	extended round						
DR22E3L-L3RZA	Red	\$107s:	PDF	extended round						
DR22E3L-L3GZA	Green	\$107d:	PDF							
DR22E3L-L3YZA	Yellow	\$107e:	PDF		115-127 VAC with transformer					
DR22E3L-L3SZA	Blue	\$;107f:	PDF							
DR22E3L-L3WZA	White	\$107g:	PDF							

DR22E3L-E3xxx Terminal Layout



Fruji Electric 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	\$c?3:	<u>PDF</u>	Blue	N.O.			
AR9B291	1	\$c?4:	PDF	Red	N.C.			

Minimum current requirement AC/DC is 5mA

Terminal Layout





Terminal No.3, 4

Terminal No.1, 2

AR9B290

AR9B291

4 for alternate action non-illuminated devices.

Max 5 contacts for illuminated momentary devices.

Max 3 for alternate action illuminated devices.

Max 6 contacts for non-illuminated momentary devices. Max

*Exceeding the maximum number of contacts could affect the mechanical durability of the operators.

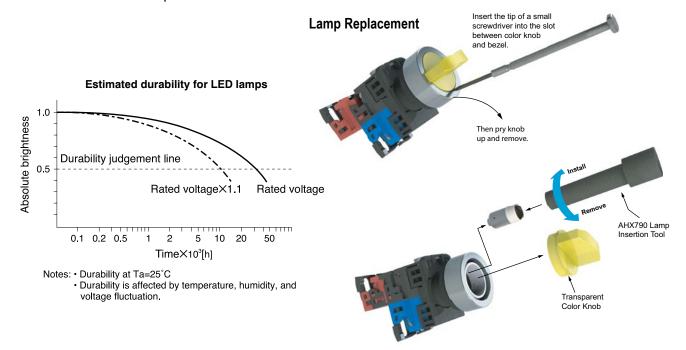


AR9B291

<u>APX510-24R</u>

	LED Bulbs for Command Series 22mm Pilot Devices										
Part Number	Color	olor Qty Price L		Use With	Lamp Voltage	Current Consumption	Power Consumption	Lamp Durability			
APX510-24R	Red	2	\$1081:								
APX510-24G	Green	2	\$1082:	AR22 / DR22							
APX510-24Y	Yellow	2	\$1083:		DR22	24V AC/DC	12mA AC 11mA DC	0.8 W	30,000h		
APX510-24S	Blue	2	\$1084:	Series		111111111111111111111111111111111111111					
APX510-240	Orange	2	\$;107,:								

*Lamp base: Ba9s/13



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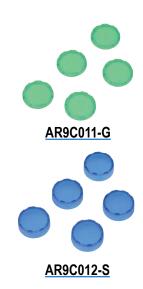
Fuji Electric Accessories for 22mm **Command Series Pilot Devices**



AR9C016-R



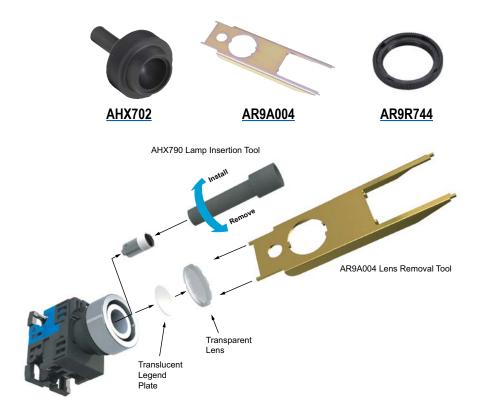
Lenses for Command Series 22mm Illuminated								
		Pus	hbutton	S				
Part Number	Color	Qty	Price	Drawing Link	Use With			
AR9C016-R	Red	5	\$107z:	PDF	AR22MOL, AR22M5L			
AR9C021-R	Red	5	\$;107]:	PDF	AR22VOR, AR22VOL			
AR9C011-R	Red	5	\$;107[:	PDF				
AR9C011-G	Green	5	\$107_:	PDF				
AR9C011-Y	Yellow	5	\$107#:	PDF	AR22FOL AR22F5L			
AR9C011-S	Blue	5	\$;107t:	PDF	7111221 02			
AR9C011-C	Clear	5	\$107u:	PDF				
AR9C012-R	Red	5	\$107v:	PDF				
AR9C012-G	Green	5	\$107x:	PDF				
AR9C012-Y	Yellow	5	\$107y:	PDF	AR22EOL			
AR9C012-S	Blue	5	\$;107!:	PDF				
AR9C012-C	Clear	5	\$107?:	PDF				





AHX790

Tools and Lock Nut for Use with Command Series 22mm Pilot Devices								
Part Number	Part Number Qty Price Drawing Link Description							
<u>AHX790</u>	1	\$1088:	PDF	Bulb removal tool				
AHX702	1	\$1089:	N/A	Wrench/lamp removal tool				
AR9A004	1	\$108d:	N/A	Wrench				
AR9R744	5	\$108a:	<u>PDF</u>	Lock nut				



Fruji Electric 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 220V AC 6A 1 million operations at 220V AC 3A	100,000 operations at 220V AC 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	30-45 N – Emergency stop pushbuttons Less than 100N						
Positive opening operation	All functions in	All functions incorporating a N.C. contact are positive-opening operation.						
Dielectric strength	2,500VAC, 1 minute (w/o transformer 2000VAC)	2000VAC, 1 minute (Pilot light with t	ransformer: 2500 VAC, 1minute)					
Insulation resistance		100M Ω or more (500VDC megger)						
Rated impulse dielectric strength	6kV	_	6kV					
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 55Hz, dou	ble amplitude 0.1 mm* / Constant: 16.7 h	tz, double amplitude 3mm					
Shock	Malfunction durability: 100 m/s² **	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 -58°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	≤ 50mΩ	_	_					
Terminal markings	IEC 60445	_	_					
Connections		th: 8mm to 11mm / Tightening torque: 0.8						
Contacts operation	Self	f-cleaning types. Slow action. Positive opening	j.					
Operation frequency	1,200 cycle/hour (Application ratio 40%)	_	-					
Utilization category/contact ratings	AC-15: 24VAC at 6A, 110VAC at 6A DC-13: 24VDC at 4A, 110VDC at 1.3 A	AC-1: 110VAC at 0.3 A DC-13: 24VDC at 0.7 A, 110VDC at 0.15 A	-					
Rated insulation voltage	600V AC/DC*** 250V AC/DC 250V AC/DC (w/transformer 600V							
Materials		losure: Polyamide / Contacts: silver, nick	el					
Standards	UL	. 508, CSA C22.2, No.14, TUV - EN60947-5-1						
* Emergancy stop type; 40 to 500 Hz, double		UL file E44592, CSA file LR20479						

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

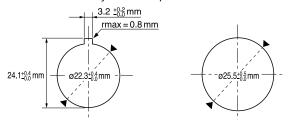
^{**} Emergency stop type: 150 m/s² ***Illuminated type without transformer

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

Note: Key insertion/removal durability for selector switch key types

22mm Pilot Devices Cutouts

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



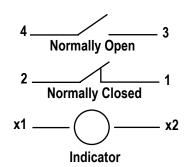
Note: If key washer or legend plate is not used, 3.2 mm-wide location holes do not need to be cut out.

[•] Key type 10,000



Control Circuit Contact Electrical Ratings and Wiring

Typical Wiring



NEMA Mechanical Switching Ratings and Test Values for DC Control Circuit Contacts									
	Thermal	Maximum	Make or Brea	k DC Current (A)					
Contact Rating Designation	Continuous Test Current (A)	125 Volts	250 Volts	301 to 600 Volts	Volt amperes				
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.

NEM	NEMA Mechanical Switching Ratings and Test Values for AC Control Circuit Contacts										
	Thermal		Maximum AC Current, 50/60Hz (A)								
	Continuous Test Current (A)	120	120 Volts 240 Volts		Volts	480 Volts		600 Volts		Volt amperes	
		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.

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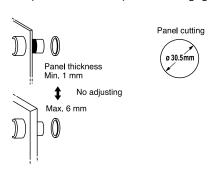
Fuji Electric 22mm Pilot Devices Overview

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 25.5 mm. The button and lens can be mounted on a panel while the operator is engaged.



Pushbuttons



AR22F0R-01RZA

E-Stop Pushbuttons

AR22F0L-10E3YZA

Illuminated Pushbuttons



Pilot Lights

DR22E3L-E3SZA

Buzzers

Selector Switches



AR22PR-210BZA



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



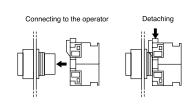
Short depth

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

Quick contact block and transformer replacement

AR22V0R-01R

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



Snap-fitting of contact blocks Detachina

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).













