Fuji Electric

Command Non-Illuminated 19mm Key Plastic Selector Switches

AF16JR-0AC2A

AF16JR-7EC2A

Command Non-Illuminated 19mm Key Plastic Selector Switches									
Part Number	*Price*	*Drawing Link*	*Operator*	*Operation*	**Type*	*Key Removable Position*	*Contacts*	*Protection*	*Material*
AF16JR-2AC1A	$29.50	PDF	22mm round Key	2-pos maintained	Thin	Key removable left position	SPDT	IP65	Base: Plastic Bezel: Plastic
AF16JR-2AC2A	$33.00	PDF					DPDT		
AF16JR-2BC1A	$29.50	PDF				Key removable left and right position	SPDT		
AF16JR-2BC2A	$33.00	PDF					DPDT		
AF16JR-2DC1A	$29.50	PDF				Key removable right position	SPDT		
AF16JR-2DC2A	$33.00	PDF					DPDT		
AF16JR-0AC1A	$29.50	PDF		2-pos spring return from right		Key removable left position	SPDT		
AF16JR-0AC2A	$33.00	PDF					DPDT		
AF16JR-3AC2A	$33.00	PDF		3-pos maintained		Key removable left position	DPDT		
AF16JR-3BC2A	$33.00	PDF				Key removable left and right position	DPDT		
AF16JR-3CC2A	$33.00	PDF				Key removable left, right and center position	DPDT		
AF16JR-3DC2A	$33.00	PDF				Key removable right position	DPDT		
AF16JR-3EC2A	$33.00	PDF				Key removable center position	DPDT		
AF16JR-3FC2A	$33.00	PDF				Key removable center and right position	DPDT		
AF16JR-3GC2A	$33.00	PDF				Key removable left and center position	DPDT		
AF16JR-6DC2A	$33.00	PDF		3-pos spring return to center from left, maintained right		Key removable right position	DPDT		
AF16JR-6EC2A	$33.00	PDF				Key removable center position	DPDT		
AF16JR-6FC2A	$33.00	PDF				Key removable center and right position	DPDT		
AF16JR-7AC2A	$33.00	PDF		3-pos spring return to center from right, maintained left		Key removable left position	DPDT		
AF16JR-7EC2A	$33.00	PDF				Key removable center position	DPDT		
AF16JR-7GC2A	$33.00	PDF				Key removable left and center position	DPDT		
AF16JR-1EC2A	$33.00	PDF		3-pos spring return to center from right or left		Key removable center position	DPDT		

*** Type: Thin - 35.9mm deep**

Accessory			
Part Number	*Price*	*Drawing Link*	*Description*
AR6C662-A	$7.50	PDF	Fuji Electric key, replacement, metal. Package of 2. For use with AF16JR series selector switches with key actuation.

AR6C662-A

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Command Non-Illuminated 19mm Key Plastic Selector Switches

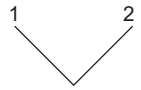
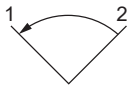
Contact Operation Table

No. of positions	Operator action	Code
2-position (90°)	Maintained	**2**
	Spring return (Right to left)	**0**
3-position (45°)	Maintained	**3**
	Spring/manual return (Left to center)	**6**
	Spring/manual return (Right to center)	**7**
	Spring return (Left or right to center)	**1**

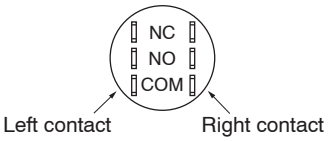
Key removable position	Applicable operator action						Code
	2	0	3	6	7	1	
Left	○	○	○	–	○	–	**A**
Left and right	○	–	○	–	–	–	**B**
Left, center and right	–	–	○	–	–	–	**C**
Right	○	–	○	○	–	–	**D**
Center	–	–	○	○	○	○	**E**
Center and right	–	–	○	○	–	–	**F**
Left and center	–	–	○	–	○	–	**G**

• Key position and contact operation

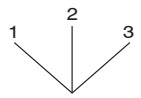
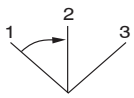
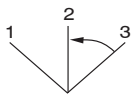
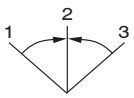
2-position

Operator action (View form the front)		Contact arrangement	Contact unit			Operator position *3	
2	0					1	2
 Maintained/90°	 Spring return/90°	SPDT	Left	COM	NC	●	
					NO		●
		2PDT	Left	COM	NC	●	
					NO		●
			Right	COM	NC	●	
					NO		●

Terminal arrangement
View from the terminal side (the back)



3-position

Operator action (View form the front)				Contact arrangement	Contact unit			Operator position *3		
3	6	7	1					1	2	3
 Maintained/each 45°	 Spring/manual return/each 45°	 Spring/manual return/each 45°	 Spring return/ each 45°	2PDT	Left	COM	NC	▬		
							NO			●
					Right	COM	NC		▬	
							NO	●		

Note: *3 ●, ▬: means the contact closed (ON).

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Command Series 16mm/19mm Pilot Devices Specifications

Specifications (Indoor Use)		
	Pushbuttons / Selector Switches / Indicating Lights	***Emergency Stop Pushbuttons***
Rated thermal current (contact block)	D300	C300 / R300
Mechanical durability	Pushbuttons: Momentary 1 million operations Alternate: 250,000 operations Selector Switch: 250,000 operations Indicating Lights: NA	100,000 operations
Electrical durability	100,000 operations (220 VAC 0.7A)	100,000 operations (AC-15, AC-13, AC-12, DC-13, DC-12)
Operating frequency	1200 operations/hour (On-load factor: 40%)	
Operating force (Avg)	Pushbuttons: 10N max Selector switches 0.1 N·m max	Push to lock: 25N max Pull to reset: 20N max Turn to reset: 0.3 N·m max
Dielectric strength	2000 VAC for 1 min	
Insulation resistance	100 MΩ (500 VDC megger)	
Rated impulse dielectric strength	2.5 kV	
Conditional short-circuit current	1000A	
Short-circuit protective device	2A	6A
Pollution degree	3 (inside the enclosure 2)	
Vibration	Resonance: 10 to 55 Hz, double amplitude 0.1mm* / Constant: 16.7 Hz, double amplitude 3mm	
Shock	Malfunction: 100 m/s² Mechanical: 500 m/s²	Malfunction:150 m/s² Durability: 1000 m/s²
Ambient temperature	-10 to +55 °C [14 to 131 °F] (no icing or no condensation)	
Temperature ratings	Storage: -40 to +70 °C [-40 to +158 °F]	
Humidity	45 to 85% RH (within -5° to +40°C) (no icing or no condensation)	
Degree of protection	IP65	
Initial contact resistance	50 mΩ max 6 VDC 1A voltage drop	
Connections	0.3 to 0.75 mm² (22 to 18 AWG) Stripping length: 11 ± 1mm Solder connection or 2.8 x 0.5mm crimp-on disconnect connector	
Mounting tightening torque	0.6 to 1.0 N·m, 5.3 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	120 VAC 1A (AC-13), 24 VDC 0.7 A (DC-13, to 0.95 = 21 ms) 240 VAC 0.7 A (AC-13), 125 VDC 0.15 A (DC-13, to 0.95 = 21 ms)	—
Rated insulation voltage	250 VAC/VDC	
Materials	Enclosure: Polyamide / Contacts: silver, nickel	
Standards	UL 508, CSA C22.2, No.14, TUV - EN60947-5-1 Pushbutton, Illuminated pushbutton: R50116757 Selector: R50116759 Pilot lights: R50116762	
Approvals	cURus File Number E44592, CE	

To obtain the most current agency approval information, see the Agency Compliance & Certifications Checklist section on the specific part number's web page.

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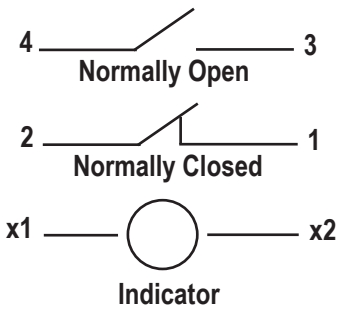
NEMA Aux Contact Ratings

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 Command Series Pilot Devices

Fuji Electric Command Series pilot devices are used in machine tools, industrial machines, control panels, distribution panels, and instrumentation panels. Pushbuttons improve interfacing by allowing better layout and wiring, easier installation and increased safety. Reliability is also built in to handle complex multi-functional controls.

The AR16, AR22 and AR30 series are configurable with a wide range of choices. Our selection of 16mm, 19mm, 22mm and 30mm pushbuttons include non-illuminated as well as illuminated models with flush round heads, extended round heads, and mushroom style heads. Other 16mm, 22mm and 30mm pilot devices available include emergency stop pushbuttons, selector switches, pilot lights, joystick selector switches, and buzzers.

We also offer a wide array of accessories to complement our selection of Fuji 16mm, 19mm, 22mm and 30mm Command Series pilot devices.

AR16 Series Features

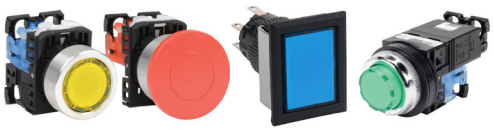
- 16.2 or 19.2mm diameter hole
- Fits 1 to 6mm max panel thickness
- Integrated structure with built-in contacts that reduce control panel depth
- Offered in Thin-type profile with only 2mm of panel protrusion for high-density mounting and attractive panel designs
- Bright LED-illuminated surface with less power consumption
- Gold-plated contacts and snap-action mechanism with low 1 mA at 5V switching
- Oil- and dust-proof operator modules (IP65)

AR22 Series Features

- 22.3mm diameter hole
- Fits 1 to 6mm max panel thickness
- Mountable in either a 22.3 or 25.5mm diameter cutout (except for joysticks and buzzers)
- Provided with release arm
- Terminal cover included for added safety
- Wiring possible in vertical and horizontal directions
- Oil- and dust-proof operator modules (IP65), except for buzzers DR22B5 (IP00), DR22B8 (IP54)

AR30 Series Features

- 30.5mm diameter hole
- Fits 1mm to 6mm max panel thickness
- Quick snap-on replacement of contact blocks
- Double-break self-cleaning contacts
- Terminal cover included for added safety
- Wiring possible in vertical and horizontal directions
- Oil- and dust-proof operator modules (IP65) except for buzzer DR30B5 (IP00)



Pushbuttons

E-Stop Pushbuttons

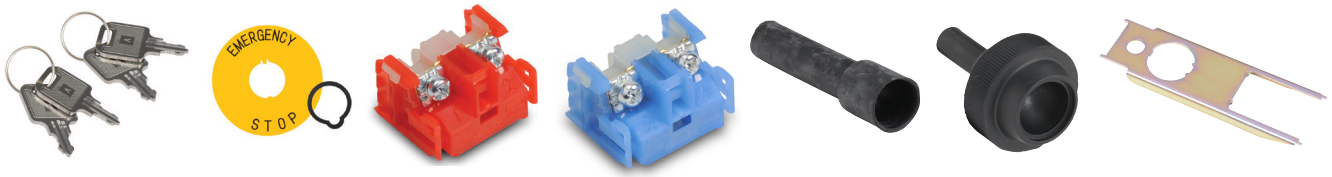
Selector Switches

Pilot Lights

Electronic Buzzers

Joysticks

Command Series Accessories



TO OBTAIN THE MOST CURRENT AGENCY APPROVAL INFORMATION, SEE THE AGENCY COMPLIANCE & CERTIFICATIONS CHECKLIST SECTION ON THE SPECIFIC PART NUMBER'S WEB PAGE.