

# Command Non-Illuminated 30mm Metal and Plastic Pushbuttons

**AR30F0R-10GZC****AR30E0R-10RZC****AR30M0R-10SZC**

## Command Non-Illuminated 30mm Pushbuttons

| Command Non-Illuminated 30mm Pushbuttons |        |         |                     |                                    |                               |          |
|--|--------|---------|---------------------|------------------------------------|-------------------------------|----------|
| Part Number                              | Color  | Price   | Drawing Link        | Operator                           | Material                      | Contacts |
| <a href="#">AR30F0R-10GZC</a>            | Green  | \$2cu1: | <a href="#">PDF</a> | 35mm momentary flush round head    | Base: Plastic<br>Bezel: Metal | N.O.     |
| <a href="#">AR30F0R-10BZC</a>            | Black  | \$2cu2: | <a href="#">PDF</a> |                                    |                               | N.O.     |
| <a href="#">AR30F0R-10RZC</a>            | Red    | \$2cu3: | <a href="#">PDF</a> |                                    |                               | N.O.     |
| <a href="#">AR30F0R-01RZC</a>            | Red    | \$2cv0: | <a href="#">PDF</a> |                                    |                               | N.C.     |
| <a href="#">AR30F0R-10SZC</a>            | Blue   | \$2cv1: | <a href="#">PDF</a> |                                    |                               | N.O.     |
| <a href="#">AR30F0R-10WZC</a>            | White  | \$2cu4: | <a href="#">PDF</a> |                                    |                               | N.O.     |
| <a href="#">AR30F0R-10YZC</a>            | Yellow | \$2cu5: | <a href="#">PDF</a> |                                    |                               | N.O.     |
| <a href="#">AR30E0R-10GZC</a>            | Green  | \$2cu6: | <a href="#">PDF</a> | 35mm momentary extended round head |                               | N.O.     |
| <a href="#">AR30E0R-10BZC</a>            | Black  | \$2cu7: | <a href="#">PDF</a> |                                    |                               | N.O.     |
| <a href="#">AR30E0R-10RZC</a>            | Red    | \$2cu8: | <a href="#">PDF</a> |                                    |                               | N.O.     |
| <a href="#">AR30E0R-01RZC</a>            | Red    | \$2cv2: | <a href="#">PDF</a> |                                    |                               | N.C.     |
| <a href="#">AR30E0R-10SZC</a>            | Blue   | \$2cv3: | <a href="#">PDF</a> |                                    |                               | N.O.     |
| <a href="#">AR30E0R-10WZC</a>            | White  | \$2cv4: | <a href="#">PDF</a> |                                    |                               | N.O.     |
| <a href="#">AR30E0R-10YZC</a>            | Yellow | \$2cv5: | <a href="#">PDF</a> |                                    |                               | N.O.     |
| <a href="#">AR30M0R-10GZC</a>            | Green  | \$2cv6: | <a href="#">PDF</a> | 40mm momentary mushroom round head |                               | N.O.     |
| <a href="#">AR30M0R-10BZC</a>            | Black  | \$2cv7: | <a href="#">PDF</a> |                                    |                               | N.O.     |
| <a href="#">AR30M0R-10RZC</a>            | Red    | \$2cv8: | <a href="#">PDF</a> |                                    |                               | N.O.     |
| <a href="#">AR30M0R-01RZC</a>            | Red    | \$2cv9: | <a href="#">PDF</a> |                                    |                               | N.C.     |
| <a href="#">AR30M0R-10SZC</a>            | Blue   | \$2cva: | <a href="#">PDF</a> |                                    |                               | N.O.     |
| <a href="#">AR30M0R-10WZC</a>            | White  | \$2cvb: | <a href="#">PDF</a> |                                    |                               | N.O.     |
| <a href="#">AR30M0R-10YZC</a>            | Yellow | \$2cvc: | <a href="#">PDF</a> |                                    |                               | N.O.     |



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# Accessories for 30mm Command Series Pilot Devices

**AHX177-00****AHX177-0B**

| Legend Plates for Command Series 30mm Devices |          |                            |                |          |   |
|---|----------|----------------------------|----------------|----------|---|
| Part Number                                   | Price    | Drawing Link               | Legend         | Material | Color                                       |
| <a href="#"><u>AHX177-00</u></a>              | \$;2czt: | <a href="#"><u>PDF</u></a> | Blank          | Brass    | Silver field, silver background             |
| <a href="#"><u>AHX177-0B</u></a>              | \$2czu:  | <a href="#"><u>PDF</u></a> | OFF            |          | Silver field, silver background, black text |
| <a href="#"><u>AHX177-0A</u></a>              | \$2czv:  | <a href="#"><u>PDF</u></a> | ON             |          |   |
| <a href="#"><u>AHX177-0C</u></a>              | \$2czx:  | <a href="#"><u>PDF</u></a> | START          |          |   |
| <a href="#"><u>AHX177-0D</u></a>              | \$2czy:  | <a href="#"><u>PDF</u></a> | STOP           |          |   |
| <a href="#"><u>AHX177-2A</u></a>              | \$2czz:  | <a href="#"><u>PDF</u></a> | OFF-ON         |          |   |
| <a href="#"><u>AHX720-5A</u></a>              | \$;2czj: | <a href="#"><u>PDF</u></a> | EMERGENCY STOP | Aluminum | Yellow field, yellow background, black text |

**AHX720-5A**

| Tools and Lock Nut for Use with Command Series 30mm Pilot Devices |          |  |
|---|----------|--|
| Part Number   | Price    | Description  |
| <a href="#"><u>AR9A006</u></a>                                    | \$-2czi: | Fuji Electric mounting wrench. For use with AR22, AR30, DR22 and DR30 series pushbuttons, switches, indicators and buzzers.                                    |
| <a href="#"><u>AR9R055</u></a>                                    | \$2czn:  | Fuji Electric guard ring, replacement, 30mm, metal. Package of 5. For use with AR30G2L series pushbuttons.   |
| <a href="#"><u>AHX082</u></a>                                     | \$2czo:  | Fuji Electric key washer, replacement, 30mm, metal. Package of 5. For use with AR30 and DR30 series pushbuttons, switches, indicators and buzzers.             |
| <a href="#"><u>AHX088</u></a>                                     | \$2czp:  | Fuji Electric lock nut, replacement, 30mm, metal. Package of 5. For use with AR30F0R, DR30D0L, E0L, E0R and Q7L series pushbuttons, switches and indicators.   |
| <a href="#"><u>AHX093</u></a>                                     | \$2czq:  | Fuji Electric lock nut, replacement, 30mm, metal. Package of 5. For use with AR30M0R, A_N, JR, PL, PR, Q2R and WR series pushbuttons, switches and indicators. |
| <a href="#"><u>AHX282</u></a>                                     | \$2czs:  | Fuji Electric sealing/spacer washer, replacement, 30mm. Package of 5. For use with AR30 and DR30 series pushbuttons, switches, indicators and buzzers.         |

**AR9R055****AHX082****AHX088****AHX282**



# Accessories for 30mm Command Series Pilot Devices

## Contact Blocks



**AR9B290**



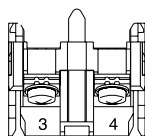
**AR9B291**

### Contact Blocks for Command Series 30mm Pushbuttons

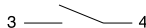
| Part Number    | Qty | Price  | Drawing Link        | Color | Contacts |
|----------------|-----|--------|---------------------|-------|----------|
| <b>AR9B290</b> | 1   | \$c?3: | <a href="#">PDF</a> | Blue  | N.O.     |
| <b>AR9B291</b> | 1   | \$c?4: | <a href="#">PDF</a> | Red   | N.C.     |

Minimum current requirement AC/DC is 5mA

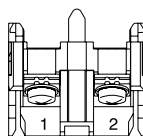
### Terminal Layout



Terminal No.3, 4



**AR9B290**



Terminal No.1, 2



**AR9B291**

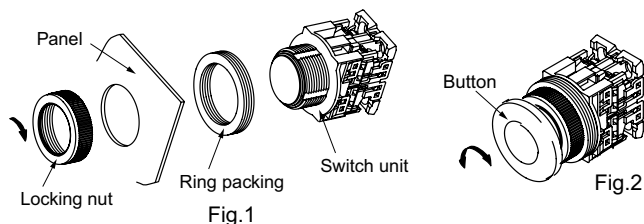
Max 6 contacts for non-illuminated momentary devices. Max 4 for alternate action non-illuminated devices.  
Max 5 contacts for illuminated momentary devices.  
Max 3 for alternate action illuminated devices.

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

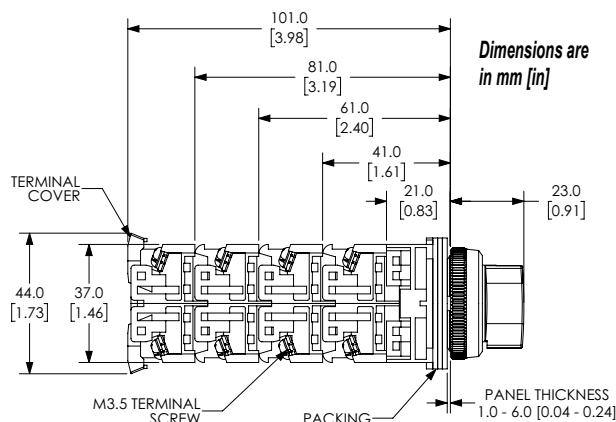
# Command Series 30mm Pilot Devices Specifications

## Assembly Information

These pushbuttons are supplied with the appropriate contact blocks, unless otherwise indicated. Use these drawings as a guide to make sure there is adequate clearance behind the panel. Insert the switch unit in the panel hole at the back of the panel and secure it with a locking nut at the panel front.



Example mounting diagram for AR30M0R

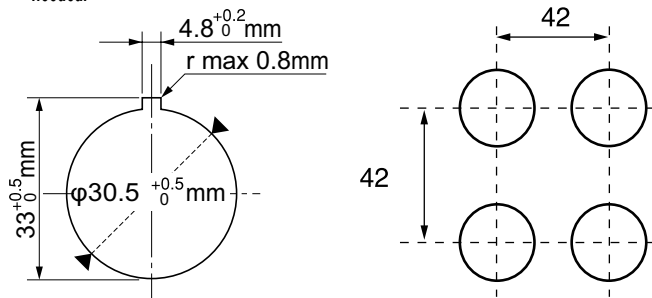


NOTE: Contact blocks can be arranged up to four deep by two wide.

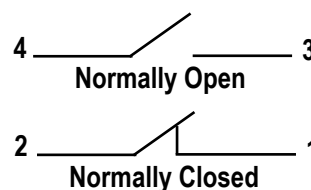
## Panel Holes

For safe operation, use these mounting hole drawings to ensure that there is adequate space between switches.

Note: Location hole 4.8mm x 33mm is for use with a key washer or legend plate. If key-washer or legend plate are not used, this location hole is not needed. ADC does not currently carry an appropriate 4.8mm punch if the hole is needed.



## Typical Wiring



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

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



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# Command Series 30mm Pilot Devices Specifications

| Specifications (Indoor Use)                          |  |   |                                       |
|--|--|---|---------------------------------------|
|  | Pushbuttons<br>Selector switches   | Joysticks   | Pilot Lights                          |
| Rated thermal current<br>(contact block)             | A600<br>P600   | —   | —                                     |
| Mechanical durability                                | See mechanical durability table  | 250,000 operations  | —                                     |
| Electrical durability                                | 500,000 operations at 220VAC 6A<br>1,000,000 operations at 220VAC 3A                             | 100,000 operations at 220VAC 1A<br>(res. load)                      | —                                     |
| Operating frequency                                  | 1200 operations/hour (on-load factor: 40%)   |   | —                                     |
| Operating force (Avg)                                | 9N – Pushbuttons<br>0.15 - 0.1 N·m – Selector switches   | Less than 100N  |                                       |
| Positive opening operation                           | All functions incorporating an N.C. contact are positive-opening operation.                      |   |                                       |
| Dielectric strength                                  | 2,000VAC, 1 minute***<br>2,500VAC, 1 minute****  | 2,000VAC, 1 minute  |                                       |
| Insulation resistance                                | 100MΩ or more (500VDC megger)  |   |                                       |
| Rated impulse dielectric strength                    | 6kV  | -   | 6kV                                   |
| Conditional short-circuit current                    | 1000A  |   | —                                     |
| Short-circuit protective device                      | Fuse 15A   | Fuse 1A   | —                                     |
| Pollution degree                                     | 3  |   |                                       |
| Vibration  | Resonance: 10 to 55 Hz, double amplitude 0.1mm*, Constant: 16.7 Hz, double amplitude 3mm         |   |                                       |
| Shock  | Malfunction: 100m/s <sup>2</sup> **<br>Mechanical: 500m/s <sup>2</sup>                           |   | Mechanical: 500m/s <sup>2</sup>       |
| Ambient temperature<br>(no condensation or no icing) | -20 to 70°C [-4 to 158°F]  | -5 to 60°C [23 to 140°F]  | -20 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°C to 40°C]   |   |                                       |
| Degree of protection                                 | IEC IP65   |   |                                       |
| Initial contact resistance                           | ≥ 50mΩ   | —   | —                                     |
| Terminal markings                                    | IEC 60445  | —   | —                                     |
| Connections  | 14 to 18 AWG; Stripping length: 5 to 11mm<br>Tightening torque: 0.8 to 1.0 N·m, 7.1 to 8.8 in·lb |   |                                       |
| Contacts operation                                   | Self-cleaning types. Slow action. Positive opening.  |   |                                       |
| Operation frequency                                  | 1,200 cycle/hour<br>(Application ratio 40%)  | —   | —                                     |
| Utilization category/<br>contact ratings             | AC-15: 24VAC at 6A, 110VAC at 6A<br>DC-13: 24VDC at 4A, 110VDC at 1.3 A                          | AC-1: 110VAC at 0.3 A<br>DC-13: 24VDC at 0.7 A,<br>110VDC at 0.15 A | —                                     |
| Rated insulation voltage                             | 250V AC/DC***<br>600V AC/DC  | 250V AC/DC  | 250V AC/DC***<br>600VAC w/transformer |
| 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 50m/s<sup>2</sup>), according to test condition of EN60947-5-5 (1998)

\*\* Emergency stop type: 150 m/s<sup>2</sup>

\*\*\* Illuminated type without transformer

\*\*\*\* Illuminated type with transformer

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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# Command 30mm Emergency Stop Pushbuttons Specifications

| 30mm Emergency Stop Pushbuttons Specifications (Indoor Use) |  |  |
|---|--|--|
|   | AR30 Q2R, V0L, V0R   | AR30 VPR, VPL  |
| Rated thermal current (contact block)                       | A600<br>P600   | B300<br>R300   |
| Mechanical durability                                       | See mechanical durability table  | 250,000 operations   |
| Electrical durability                                       | 500,000 operations at 220VAC 6A<br>1,000,000 operations at 220VAC 3A                             | 100,000 operations<br>AC12, DC13, DC12   |
| Operating frequency   | 1200 operations/hour (on-load factor: 40%)   | 900 operations/hour (on-load factor: 40%)  |
| Operating force (Avg)                                       | 30-45 N  | Push to Lock: 40N<br>Turn to reset: 0.5 N·m  |
| Positive opening operation                                  | All functions incorporating an N.C. contact are positive-opening operation.                      |  |
| Dielectric strength   | 2,000VAC, 1 minute***<br>2,500VAC, 1 minute****  | 2,000 VAC, 1 minute  |
| Insulation resistance                                       | 100MΩ or more (500VDC megger)  |  |
| Rated impulse dielectric strength                           | 6kV  | 2.5 kV   |
| Conditional short-circuit current                           | 1000A  |  |
| Short-circuit protective device                             | Fuse 15A   | Fuse 10A   |
| Pollution degree  | 3  |  |
| Vibration   | Resonance: 10 to 55 Hz, double amplitude 0.1mm*,<br>Constant: 16.7 Hz, double amplitude 3mm      | Malfunction: max double amplitude: 0.7 mm (max: 50 m/s <sup>2</sup> ), frequency: 10 to 500 Hz<br>Durability: max double amplitude: 0.7 mm (max: 50 m/s <sup>2</sup> ), frequency: 10 to 500 Hz* |
| Shock   | Malfunction: 100m/s <sup>2</sup><br>Mechanical: 500m/s <sup>2</sup>                              | Malfunction: 150m/s <sup>2</sup><br>Durability: 1000 m/s <sup>2</sup> **   |
| Ambient temperature (no condensation or no icing)           | -20 to 70°C [-4 to 158°F]  | Non-illuminated -20 to +60°C [-4 to 140°F]<br>Illuminated -20 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°C to 40°C]   |  |
| Degree of protection  | IEC IP65   |  |
| Initial contact resistance                                  | ≥ 50mΩ   | 1000mΩ   |
| Terminal markings   | IEC 60445  |  |
| Connections   | 14 to 18 AWG; Stripping length: 5 to 11mm<br>Tightening torque: 0.8 to 1.0 N·m, 7.1 to 8.8 in·lb | Stranded wire: up to 1.25 mm <sup>2</sup> , 24 to 16 AWG-CU<br>Solid wire: up to ø1.2 mm <sup>2</sup> , 24 to 16 AWG-CU<br>Tightening torque: 1.5 to 2.5 N·m, 13.27 to 22.1 in·lb                |
| Contacts operation  | Self-cleaning types. Slow action. Positive opening.  |  |
| Operation frequency   | 1,200 cycle/hour<br>(Application ratio 40%)  | 900 operations/hour<br>(On-load factor: 40%)   |
| Utilization category/<br>contact ratings                    | AC-15: 24VAC at 6A, 110VAC at 6A<br>DC-13: 24VDC at 4A, 110VDC at 1.3 A                          | DC-13: 24VDC at 1A<br>DC-12 24VDC at 2A  |
| Rated insulation voltage                                    | 250 VAC/VDC***<br>600 VAC/VDC  | 250 VAC/VDC  |
| 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   | cUL Listed, CE, UL Category Emergency Stop Device  |

\* Emergency stop type: 10 to 500 Hz, double amplitude 0.7mm (acceleration 50m/s<sup>2</sup>), according to test condition of EN60947-5-5 (1998)

\*\* Except when the switch is mounted upside down

\*\*\* Illuminated type without transformer

\*\*\*\* Illuminated type with transformer

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

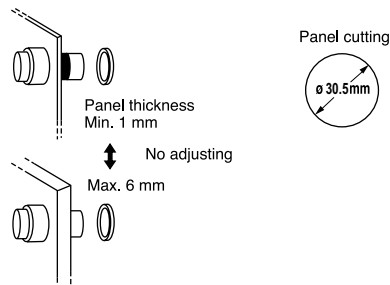
# Fuji Electric 30mm Pilot Devices Overview

## Pushbuttons, Selectors, Pilot Lights, Joysticks, Buzzer

Fuji Electric AR30 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

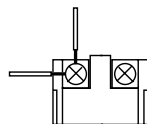
Fuji Electric AR30 pilot devices can be mounted on panels between 1 and 6mm thick and are mountable in panel cutouts of 30.5 mm.



### Wiring

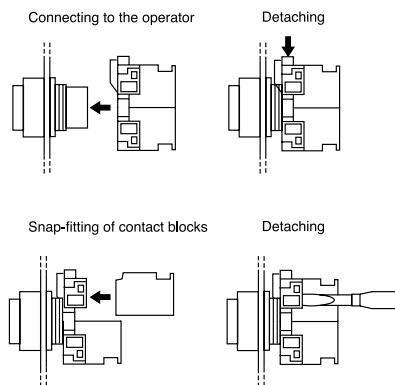
These pilot devices can be wired in both vertical and lateral directions making wiring in narrow spaces easier. Contact block color coding makes wiring even easier.

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



### Quick contact block and transformer replacement

Fuji AR30 pilot devices have a snap-on mounting that makes replacing or adding a contact block and transformer unit easier.



### Pushbuttons



AR30F0R-01RZC

### Illuminated Pushbuttons



AR30E0L-10L3GZC

### Pilot Lights



DR30D0L-L9SZC

### E-Stop Pushbuttons



AR30Q2R-01RZC

### Selector Switches



AR30PR-210BZC

### Buzzers



DR30B5-EBZC

### Short depth

Fuji AR30 pilot devices are designed to occupy less space than traditional 30mm devices.

### Safety

AR30 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

AR30 pilot devices feature oil- and dust-tight operator construction (IP65), except for buzzers DR30B5 (IP00).



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