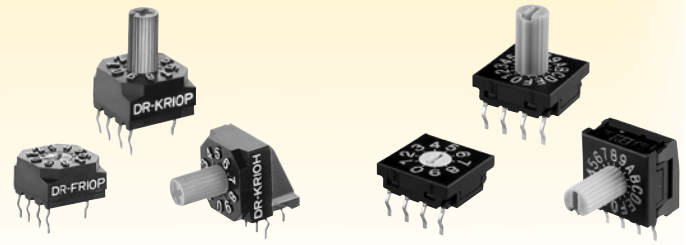


# Change Notice Addendum DR and FR01 Series

## Discontinuation of DR Series Replaced by FR01 Series

In support of our existing DR series customers, we have proactively built inventory based on anticipated demand through 2008. Orders for existing customers will continue to be accepted by NKK Switches until the inventory on hand for 2008 is depleted.



DR Series

FR01 Series

DR Part No. Discontinued	FR Part No. Replacement
DRAC10HB	FR01AC10HB-06XL-S
DRAC10H	* See Note
DRAC10PB	FR01AC10PB-S
DRAC10P	* See Note
DRAC16HB	FR01AC16HB-06XL-S
DRAC16H	* See Note
DRAC16PB	FR01AC16PB-S
DRAC16P	* See Note
DRAR10HB	FR01AR10HB-06XL-S
DRAR10H	* See Note
DRAR10PB	FR01AR10PB-S
DRAR10P	* See Note
DRAR16HB	FR01AR16HB-06XL-S
DRAR16H	* See Note
DRAR16PB	FR01AR16PB-S
DRAR16P	* See Note
DRFC10H	FR01FC10H-06XL-S
DRFC10P	FR01FC10P-S
DRFC16H	FR01FC16H-06XL-S
DRFC16P	FR01FC16P-S
DRFR10H	FR01FR10H-06XL-S
DRFR10P	FR01FR10P-S

DR Part No. Discontinued	FR Part No. Replacement
DRFR16H	FR01FR16H-06XL-S
DRFR16P	FR01FR16P-S
DRF2C10H	FR01FC10H-06XL-S
DRF2C10P	FR01FC10P-S
DRF2C16H	FR01FC16H-06XL-S
DRF2C16P	FR01FC16P-S
DRF2R10H	FR01FR10H-06XL-S
DRF2R10P	FR01FR10P-S
DRF2R16H	FR01FR16H-06XL-S
DRF2R16P	FR01FR16P-S
DRKC10H	FR01KC10H-06XL-S
DRKC10P	FR01KC10P-S
DRKC16H	FR01KC16H-06XL-S
DRKC16P	FR01KC16P-S
DRKR10H	FR01KR10H-06XL-S
DRKR10P	FR01KR10P-S
DRKR16H	FR01KR16H-06XL-S
DRKR16P	FR01KR16P-S
DRSC10P	FR01SC10P-S
DRSC16P	FR01SC16P-S
DRSR10P	FR01SR10P-S
DRSR16P	FR01SR16P-S
AT4061 Accessory Optional Snap-on Knob	AT4180 Accessory Optional Snap-on Knob

### NOTES

- "-06XL": code for custom FR01 Right Angle PC with .200" terminal spacing
- "-W": code for FR01 series standard or custom parts with washable option: add preceding "S"
- "-S": code for stick-tube packaging: 50 pieces per stick for FR01F, FR01K, FR01S; 25 pieces per stick for FR01A
- \* Bracket version is available for FR01A models; mounting hardware available

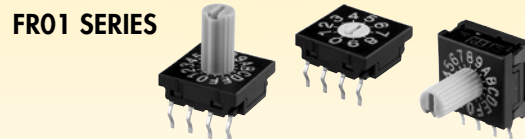
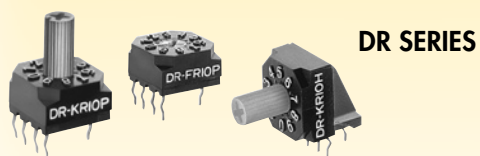
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# Data Sheet

# DR and FR01 Comparison



## High Level Features

FEATURE	DR SERIES	FR01 SERIES
Contacts	Self-wiping	Cam activated
Sealed construction prevents contamination and allows automated soldering and washing	All models	Custom part numbers only (right angle not available)
Circuits: color coded actuators	Real coded: Orange actuator Complement coded: White for F2 actuator, Red for all others	Real coded: Orange actuator Complement coded: Yellow actuator
Hardware for metal shaft actuator: • AT513M Metric Hex Nut (2) • AT515M Locking Ring (1) • AT509 Lockwasher (1)	Included with no bracket model, option for bracket model	Option for bracket model; offered as accessories
Snap-on knob options for screwdriver actuated (not interchangeable)	AT4061; align slit in knob with white pointer on actuator	AT4180; align slit in knob with arrowhead on actuator
Prominent legends on face of switch	White raised characters	White hot stamped characters
Surface mount models available	None	FR02 Series

## General Specifications

SPECIFICATION	DR SERIES	FR01 SERIES
Electrical capacity (resistive load): Switching rating Nonswitching rating	100mA @ 5V DC 100mA @ 50V DC	100mA @ 5V DC 100mA @ 50V DC
Contact resistance (maximum)	30 milliohms for contact point; 80 milliohms maximum	30 milliohms for contact point; 100 milliohms maximum
Insulation resistance (minimum)	1,000 megohms @ 250V DC	1,000 megohms @ 250V DC
Dielectric strength (minimum)	250V AC for one minute min.	250V DC for one minute min.
Mechanical life (minimum)	20,000 detent operations	10,000 detent operations
Electrical life (minimum)	20,000 detent operations	10,000 detent operations
Nominal operating torque	0.0078Nm ~ 0.0310Nm	Metal shaft: 0.009Nm for decimal; 0.011Nm for hexadecimal. All other actuators: 0.008Nm for decimal; 0.01Nm for hexadecimal
Contact timing:	Shorting	Nonshorting
Operating temperature range	-25°C ~ +75°C (-13°F ~ +167°F)	-25°C ~ +85°C (-13°F ~ +185°F)

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# Data Sheet

# DR and FR01 Comparison

## Typical Dimension (Millimeter and Inch) and Feature Differences

PART NUMBERS		BODY HEIGHT		C TERMINAL SPACING		TERMINAL LENGTH		TERMINAL-TO-FACE SPACING		SHAFT DIAMETER		ACTUATOR INDICATOR			
DR SERIES	FR01 SERIES	DR	FR01	DR	FR01	DR	FR01	DR	FR01	DR	FR01	DR ✕	FR01 ↑		
	FR01FC10H-S														
	FR01FR10H-S														
	FR01FC16H-S														
	FR01FR16H-S														
DRF2C10H	*FR01FC10H-06XL-S	(10.2) .402"	(8.9) .350"					(4.3) .169"	(3.25) .128"						
DRF2R10H	*FR01FR10H-06XL-S														
DRF2C16H	*FR01FC16H-06XL-S														
DRF2R16H	*FR01FR16H-06XL-S														
	FR01KC10H-S														
	FR01KR10H-S														
	FR01KC16H-S														
	FR01KR16H-S														
DRKC10H	*FR01KC10H-06XL-S	(10.2) .402"	(8.9) .350"					(4.3) .169"	(3.25) .128"			✕	↑		
DRKR10H	*FR01KR10H-06XL-S											✕	↑		
DRKC16H	*FR01KC16H-06XL-S											✕	↑		
DRKR16H	*FR01KR16H-06XL-S											✕	↑		
DRF2C10P	FR01FC10P-S	(5.9) .232"	(3.8) .150"												
DRF2R10P	FR01FR10P-S														
DRF2C16P	FR01FC16P-S														
DRF2R16P	FR01FR16P-S														
DRKC10P	FR01KC10P-S	(5.9) .232"	(3.8) .150"									✕	↑		
DRKR10P	FR01KR10P-S												✕	↑	
DRKC16P	FR01KC16P-S												✕	↑	
DRKR16P	FR01KR16P-S												✕	↑	
◆ DRAC10P	◆ Bracket version without hardware is available.														
◆ DRAR10P															
◆ DRAC16P															
◆ DRAR16P															
◆ DRAC10H	◆ Bracket version without hardware is available.														
◆ DRAR10H															
◆ DRAC16H															
◆ DRAR16H															
DRSC10P	FR01SC10P-S	(5.6) .220"	(4.2) .165"												
DRSR10P	FR01SR10P-S														
DRSC16P	FR01SC16P-S														
DRSR16P	FR01SR16P-S														
DRFC10H	*FR01FC10H-06XL-S	(10.2) .402"	(8.9) .350"					(4.3) .169"	(3.25) .128"			✕	↑		
DRFR10H	*FR01FR10H-06XL-S											✕	↑		
DRFC16H	*FR01FC16H-06XL-S											✕	↑		
DRFR16H	*FR01FR16H-06XL-S											✕	↑		
DRFC10P	FR01FC10P-S	(5.9) .232"	(3.8) .150"									✕	↑		
DRFR10P	FR01FR10P-S												✕	↑	
DRFC16P	FR01FC16P-S												✕	↑	
DRFR16P	FR01FR16P-S												✕	↑	
DRAC10PB	FR01AC10PB-S														
DRAR10PB	FR01AR10PB-S					(3.0) .118"	(3.3) .130"								
DRAC16PB	FR01AC16PB-S														
DRAR16PB	FR01AR16PB-S														
DRAC10HB	FR01AC10HB-06XL-S	(16.25) .640"	(13.9) .547"												
DRAR10HB	FR01AR10HB-06XL-S					(2.8) .110"	Bracket (3.3)/.130" Terminal (2.8)/.110"			(3.15) .124"	(3.1) .122"				
DRAC16HB	FR01AC16HB-06XL-S														
DRAR16HB	FR01AR16HB-06XL-S														
	FR01AC10HB-S														
	FR01AR10HB-S			(5.08) .200"	(2.54) .100"	(2.8) .110"	(3.3) .130"								
	FR01AC16HB-S														
	FR01AR16HB-S														

\* Custom RA with .200" spacing. Add "-W" for washable to any FR01 part no. preceding "S" (custom option).

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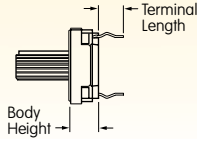
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# Data Sheet

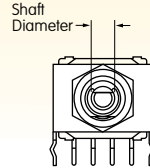
# DR and FR01 Comparison

## Typical Switch Dimensions Defined

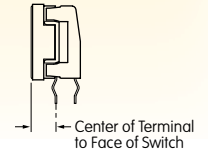
**DR and FR01 Series**  
Body and Terminals



**DR and FR01 Series**  
Metal Shaft Actuator

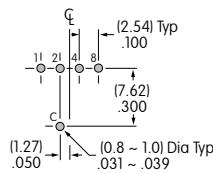


**DR and FR01 Series**  
Terminal-to-Face

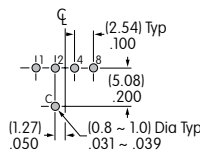


## Footprints: C Terminal Spacing

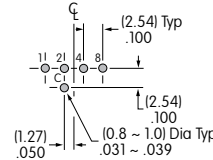
**DR and FR01 Series**  
Straight PC  
with .300" Spacing



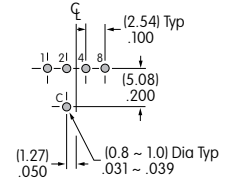
**DR Series**  
Right Angle PC  
with .200" Spacing



**FR01 Series**  
Right Angle PC  
with .100" Spacing



**FR01 Series Custom**  
Right Angle PC  
with .200" Spacing

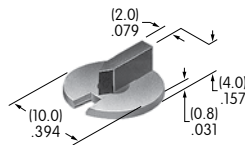


## Optional Accessory Knobs

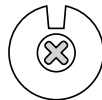
**DR Series**  
AT4061 Snap-on Knob

Polyamide

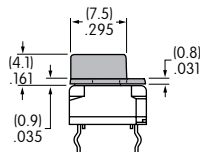
Black knob with clear flange



Bottom view of snap-on knob  
"X" projection snaps on to actuator



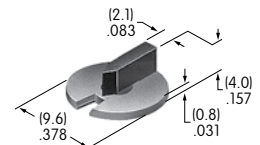
When mounting, align slit in knob  
with white pointer on actuator.



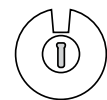
**FR01 Series**  
AT4180 Snap-on Knob

Polyamide

Black knob with transparent flange



Bottom view of snap-on knob  
Bar projection snaps on to actuator



When mounting, align slit in knob  
with arrowhead on actuator.

