





Selection Guide

PCB Terminal and Front Mount Thumbwheel Switches

Style	DL Series PCB Terminal	DE Series Front Mount
Page	C-4	C-7
Appearance		
Front and Character Size (H x W)	0.624" x 0.195" (16 x 5mm) 0.702" x 0.195" (18 x 5mm) 0.624" x 0.2" (16 x 5.08mm) 0.702" x 0.2" (18 x 5.08mm) 0.624" x 0.23" (16 x 6mm) 0.702" x 0.234" (18 x 6mm)	0.702" x 0.234"; 0.125" x 0.078" (18 x 6mm; 3.20 x 2mm) Decimal unit
Operator Style	Thumbwheel, dual button, pen-touch	Set-lock, dual button, thumbwheel, pen-touch
Assembly	Snap-fit	
Mounting	Snap-fit	Snap-fit
Terminal Style	PC board pins	Solder (PCB traces)
Housing and Character Color	Black White characters on black	
Operating Voltage/Current	50V AC, 28V DC; 0.1A (resistive load)	
Thermal Current	0.5A (non-switching)	
Output Code	2-position repeat BCD (binary coded decimal) Complementary BCD	2-position repeat Decimal BCD (binary coded decimal)
Features	A stop mechanism can be incorporated to restrict wheel rotation to user-defined limits	

Selection Guide, continued

Large Display Thumbwheel Switches

Style	DF Series Larger Display	DG Series Easy-to-Read
Page	C-8	C-10
Appearance		
Front and Character Size (H x W)	0.936" x 0.312"; 0.195" x 0.109" (24 x 8mm; 5 x 2.8mm)	1.287" x 0.312"; 0.273" x 0.122" (33 x 8mm; 7 x 3.4mm)
Operator Style	Set-lock, dual button, thumbwheel	Set-lock, dual button, thumbwheel
Assembly	Snap-fit	
Mounting	Snap-fit	
Terminal Style	Solder (PCB traces)	
Housing and Character Color	Black White characters on black	
Operating Voltage/Current	50V AC, 28V DC; 0.1A (resistive load)	
Thermal Current	1.0A (non-switching)	1.0A (non-switching)
Output Code	2-position repeat Decimal BCD (binary coded decimal) Complementary BCD Duodecimal Hexadecimal	
Features	A stop mechanism can be incorporated to restrict wheel rotation to user-defined limits	

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DL Series — PCB Terminal Switches

Low-Cost, Miniature Size
Available in 3 Operator Styles
Choice of 3 Output Codes

Key features of the DL series include:

- Two operator styles: thumbwheel and dual button
- Output codes available in 2-position repeat, BCD (binary coded decimal) and complementary BCD
- Housing color: black
- Modular snap-fit construction
- A stop mechanism can be incorporated to restrict wheel rotation to user-defined limits; see page C-22 for instructions on how to specify the stop mechanism in the part number designation



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	0.195" (5mm) Wide Front Mount DL1C-	0.2" (5.08mm) Wide Front Mount DL3B-	0.234" (6mm) Wide Front Mount DL5B-
Front Size — Height (H x W)	0.702" x 0.195" (18 x 5mm)	0.702" x 0.2" (18 x 5.08mm)	0.702" x 0.234" (18 x 6mm)
Character Size (H x W)	BCD: 0.117" x 0.062" (3 x 1.6mm) 2-position: 0.062" x 0.062" (1.6 x 1.6mm)	BCD: 0.121" x 0.07" (3.1 x 1.8mm) 2-position: 0.07" x 0.07" (1.8 x 1.8mm)	BCD: 0.121" x 0.078" (3.1 x 2.0mm) 2-position: 0.078" x 0.078" (2.0 x 2.0mm)
Operator Style	Thumbwheel	Dual button	Dual button
Assembly Method	Snap-fit	Snap-fit	Snap-fit
Mounting Method	Snap-fit	Snap-fit	Snap-fit
Color	Housing	Black	
	Characters	White on black background	
Terminal Style	PC board terminal (0.75 x 2t)		
Output Code	2-position repeat, BCD, and complementary BCD		
Degree of Protection	Contact parts: IP40 or equivalent		
Insulation Voltage	50V AC/DC		
Operating Voltage	50V AC, 5 to 28V DC		
Operating Current	1mA to 0.1A (resistive load)		
Thermal Current	0.5A maximum (non-switching)		
Dielectric Strength	Between live and dead parts: 1,000V AC, 1 minute Between terminals of the same pole: 500V AC, 1 minute		
Insulation Resistance	Between live and dead parts: 1,000MΩ minimum (250V DC megger) Between terminals of the same pole: 10MΩ (250V DC megger)		
Contact Resistance	200mΩ maximum (initial value)		
Vibration Resistance	Operating extremes: amplitude 1.5mm p-p (5 to 55Hz), 2 hours each in 3 axes Damage limits: amplitude 1.5mm p-p (5 to 55Hz), 2 hours each in 3 axes		
Shock Resistance	Operating extremes: 100m/sec ² (approximately 10G) Damage limits: 500m/sec ² (approximately 50G)		
Life Expectancy (operations)	Mechanical: 50,000 minimum Electrical: 50,000 minimum		
Operating Temperature	-20 to +70°C (do not freezing)		



The standard color for thumbwheel switches is black. Order the standard color for fastest delivery.
If ordering a non-standard color, allow extra time for delivery.

Part Numbers

Part Numbers: DL Series

Housing (width)	Operator Style	Output Code	Part No.
Front Mount 0.195" (5mm)	Thumbwheel	2-position repeat	DL1C-001-B
		BCD (binary coded decimal)	DL1C-431-B
		Complementary BCD	DL1C-531-B
Front Mount 0.2" (5.08mm)	Dual-button	2-position repeat	DL3B-001-B
		BCD (binary coded decimal)	DL3B-431-B
		Complementary BCD	DL3B-531-B
Front Mount 0.234" (6mm)	Dual-button	2-position repeat	DL5B-001-B
		BCD (Binary Coded Decimal)	DL5B-431-B
		Complementary BCD	DL5B-531-B



1. For output codes, see page C-12.
2. For dimensions, see page C-15.
3. The DL series does not have connector terminals.



Accessories

Part Numbers: DL Series Accessories

Description	Used On	Part No.
Spare Unit	DL1C	DL9Z-1Y-B
	DL3B	DL9Z-3Y-B
	DL5B	DL9Z-5Y-B
End Plate	DL1C	DL9Z-1W-B (in pair)
	DL3B	DL9Z-3W-B (in pair)
	DL5B	DL9Z-5W-B (in pair)

DE Series — Front Mount Compact Switches

Compact 0.234" (6mm) Wide
Available in 3 Operator Styles
Choice of 3 Output Codes

Key features of the DE series include:

- Miniature size
- Dustproof construction
- Glass-epoxy PC boards for high reliability and long life
- Easy to read large character display: 0.27"H x 0.17"W (7 x 4.3mm)
- Units available in three operator styles: set-lock, dual button, and thumbwheel
- Featuring a variety of output codes: 2-position repeat, decimal, BCD (binary coded decimal)
- Solder mount terminals
- Easy to assemble snap-fit construction
- A stop mechanism can be incorporated to restrict wheel rotation to user-defined limits; see page C-22 for instructions on how to specify the stop mechanism in the part number designation



Front Mount (DE_ _) 0.234" (6mm) Wide

Front Mount (DE_ _) 0.234" (6mm) Wide	
Front Size (H x W)	0.702" x 0.234" (18 x 6mm)
Character Size	0.125" x 0.078" (3.2 x 2mm)
Operator Style	Set-lock, dual button, thumbwheel
Assembling and Mounting	Snap-fit
Color	Housing: black; Characters: white characters on black background
Terminal Style	Solder terminal
Output Code	2-position repeat, decimal and BCD
Operating Voltage	50V AC, 28V DC
Operating Current	0.1A (resistive load)
Thermal Current	0.5A (non-switching)
Dielectric Strength	Between live and dead parts: 1,000V AC, 1 minute Between live parts: 500V AC, 1 minute
Insulation Resistance	Between live and dead parts: 1,000MΩ minimum Between live parts: 10MΩ minimum
Contact Resistance	200mΩ maximum
Vibration Resistance	Double amplitude 1.5mm (10 to 55Hz)
Shock Resistance	100m/sec ² (approximately 10G) maximum
Operation Life (dustproof)	Electrical: 100,000 operations minimum; Mechanical: 300,000 operations minimum

Specifications

Part Numbers

Part Numbers: DE Series

Housing	Operator Style	Output Code	Part No.
Front mount 0.234" (6mm) wide	Set-lock	2-position repeat	DEAN-001-B
		Decimal	DEAN-010-B
		BCD	DEAN-031-B
			DEAN-031D-B*
	Dual button	2-position repeat	DEBN-001-B
		Decimal	DEBN-010-B
		BCD	DEBN-031-B
			DEBN-031D-B*
	Thumbwheel	2-position repeat	DECN-001-B
		Decimal	DECN-010-B
		BCD	DECN-031-B
			DECN-031D-B*



- * Extended PC boards for installing diodes. Diodes must be purchased separately.
- For dimensions, see page C-17.
- For output codes, see page C-12.
- For terminal arrangements, see page C-20.
- The DE series does not have connector terminals.

Accessories

Part Numbers: DE Series Accessories

Description	Used On	Part No.
Spare Unit	DEA; DEB	DENY-1-B
	DECN	DECY-1-B
End Plate (in pair)	DEA; DEB	DENW-1-B
	DECN	DECW-1-B

DF Series — Large Character Display

Compact 0.314" (8mm) Wide
 Available in 3 Operator Styles
 Choice of 6 Output Codes
 Dustproof Constructions

Key features of the DF series include:

- Large character display 0.20"H x 0.11"W (5 x 2.8mm)
- Units available in 3 operator styles: set-lock, dual button, and thumbwheel
- Featuring a variety of output codes: 2-position repeat, hexadecimal, decimal, binary, complementary BCD, and duodecimal
- Solder mount terminals
- Easy to assemble snap-fit construction
- A stop mechanism can be incorporated to restrict wheel rotation to user-defined limits; see page C-22 for instructions on how to specify the stop mechanism in the part number designation



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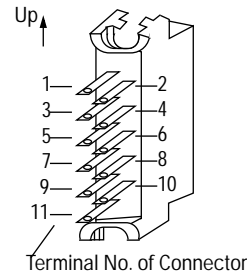
Specifications	Front Size (H x W)	0.936" x 0.312" (24 x 8mm)
	Character Size (H x W)	0.195" x 0.109" (5 x 2.8mm)
	Operating Voltage	50V AC, 28V DC
	Operating Current	0.1A (resistive load)
	Thermal Current	1A (non-switching)
	Dielectric Strength	Between live and dead parts: 1,000V AC, 1 minute Between live parts: 500V AC, 1 minute
	Insulation Resistance	Between live and dead parts: 1,000MΩ minimum
	Contact Resistance	200mΩ maximum
	Vibration Resistance	50m/sec ² (approximately 5G, 55Hz) maximum
	Shock Resistance	100m/sec ² (approximately 10G) maximum
	Life Expectancy (operations)	Electrical: 100,000 minimum Mechanical: 1,000,000 minimum
	Operating Temperature	-20 to +60°C (do not freezing)
	Character Size	0.195" x 0.109" (5 x 2.8mm)
	Assembling Method	Snap-fit
Mounting Method	Snap-fit	
Terminal Style	Solder (for plug-in connector)	
Weight	Switch unit: approximately 4.5g End plate: approximately 2.5g	

Part Numbers

Part Numbers: DF Series

Operator Style	Output Code	Part No.	Comments
Set-lock	2-position repeat	DFAN-001-B	—
	Decimal	DFAN-010-B	10-position
	BCD	DFAN-031-B	—
		DFAN-031D-B*	Connecting diodes
		DFAN-031P-B	Odd parity
	Complementary BCD	DFAN-131-B	—
	Duodecimal	DFAN-032-B	—
	Hexadecimal	DFAN-036-B	—
DFAN-036D-B*		Connecting diodes	
Dual button	2-position repeat	DFBN-001-B	—
	Decimal	DFBN-010-B	10-position
	BCD	DFBN-031-B	—
		DFBN-031D-B*	Connecting diodes
		DFBN-031P-B	Odd parity
	Complementary BCD	DFBN-131-B	—
	Duodecimal	DFBN-032-B	—
	Hexadecimal	DFBN-036-B	—
DFBN-036D-B*		Connecting diodes	
Thumbwheel	2-position repeat	DFCN-001-B	—
	Decimal	DFCN-010-B	10-position
	BCD	DFCN-031-B	—
		DFCN-031D-B*	Connecting diodes
		DFCN-031P-B	Odd parity
	Complementary BCD	DFCN-131-B	—

DF Series



5. The DF series has connector terminals. The terminal numbers of the switch do not coincide with those of the connector.



- * Extended PC boards for installing diodes. Diodes must be purchased separately.
- For dimensions, see page C-18.
- For output codes, see page C-12.
- For terminal arrangements, see page C-20.

Accessories

Part Numbers: DF Series Accessories

Description	Used On	Part No.
Spacer	DFA; DFB 0.156" (4mm) wide	DFNY-2-B
	DFCN 0.156" (4mm) wide	DFCY-2-B
Connector	With 11 solder terminals for decimal units	DAC-111
	With 11 PCB terminals for decimal units	DAC-112
	With 6 solder terminals for other than decimal units	DAC-061
	With 6 PCB terminals for other than decimal units	DAC-062

Description	Used On	Part No.
Spare Unit	DFA; DFB	DFNY-1-B 0.312" (8mm) wide
	DFCN	DFCY-1-B 0.312" (8mm) wide
End Plate (in pair)	DFA; DFB	DFNW-2-B 0.078" (2mm) wide x 2
		DFNW-3-B 0.117" (3mm) wide x 2
	DFCN	DFCW-2-B 0.078" (2mm) wide x 2
		DFCW-3-B 0.117" (3mm) wide x 2

DG Series — Easy to Read Large Character Display

Compact 0.314" (8mm) Wide
Available in 3 Operator Styles
Choice of 6 Output Codes

Key features of the DG series include:

- Standard size, dustproof construction
- Glass-epoxy PC boards for reliability, long life
- Easy to read large character display 0.27"H x 0.13"W (7mm x 3.4mm)
- Units available in three operator styles: set-lock, dual button, and thumbwheel
- Variety of output codes: 2-position repeat, decimal, BCD, complementary BCD, hexadecimal, and duodecimal
- Solder mount terminals
- Easy to assemble snap-fit construction
- A stop mechanism can be incorporated to restrict wheel rotation to user-defined limits; see page C-22 for instructions on how to specify the stop mechanism in the part number designation



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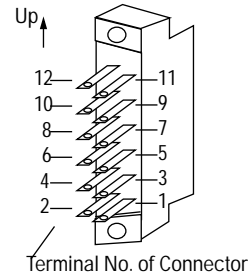
Specifications	Front Size (H x W)	1.287" x 0.314" (33 x 8mm)
	Character Size (H x W)	Decimal unit: 0.273" x 0.133" (7 x 3.4mm)
	Operator Style	Set-lock, dual button, and thumbwheel
	Assembly Method	Snap-fit
	Mounting Method	Snap-fit
	Housing Color	Black
	Character Color	White characters on black background
	Terminal Style	Solder
	Output	2-position repeat, decimal, binary coded decimal (BCD), duodecimal, and hexadecimal setting, and complementary BCD
	Connector Types	Solder
	Operating Voltage	50V AC, 28V DC
	Operating Current	0.1A (resistive load)
	Thermal Current	1A (non-switching)
	Dielectric Strength	Between live and dead parts: 1,000V AC, 1 minute Between live parts: 500V AC, 1 minute
	Insulation Resistance	Between live and dead parts: 1,000MΩ min Between live parts: 10MΩ min
	Contact Resistance	200mΩ maximum
	Vibration Resistance	50m/sec ² (approximately 5G) maximum
Shock Resistance	100m/sec ² (approximately 10G) maximum	
Life Expectancy (operations)	Electrical: 100,000 minimum Mechanical: 1,000,000 minimum	
Operating Temperature	-20 to +60°C (do not freezing)	

Part Numbers

Part Numbers: DG Series

Operator Style	Output Code	Part No.	Comments
Set-lock	2-position repeat	DGAN-001-B	—
		DGAN-001D-B*	Connecting diodes
	Decimal	DGAN-010-B	—
	BCD	DGAN-031-B	—
		DGAN-031D-B*	Connecting diodes
		DGAN-031P-B	Odd parity
	Complementary BCD	DGAN-131-B	—
	Duodecimal	DGAN-032-B	—
		DGAN-032D-B*	Connecting diodes
	Hexadecimal	DGAN-036-B	—
DGAN-036D-B*		Connecting diodes	
Thumbwheel	2-position repeat	DGCN-001-B	—
		DGCN-001D-B*	Connecting diodes
	Decimal	DGCN-010-B	—
	BCD	DGCN-031-B	—
		DGCN-031D-B*	Connecting diodes
	DGCN-031P-B	Odd parity	
Complementary BCD	DGCN-131-B	—	
Dual button	2-position repeat	DGBN-001-B	—
		DGBN-001D-B*	Connecting diodes
	Decimal	DGBN-010-B	—
	BCD	DGBN-031-B	—
		DGBN-031D-B*	Connecting diodes
		DGBN-031P-B	Odd parity
	Complementary BCD	DGBN-131-B	—
	Duodecimal	DGBN-032-B	—
		DGBN-032D-B*	Connecting diodes
	Hexadecimal	DGBN-036-B	—
DGBN-036D-B*		Connecting diodes	

DG Series



5. The DG series has connector terminals. The terminal numbers of the switch do not coincide with those of the connector.



- * Extended PC boards for installing diodes. Diodes must be purchased separately.
- For dimensions, see page C-19.
- For output codes, see page C-12.
- For terminal arrangements, see page C-21.

Accessories

Part Numbers: DG Series Accessories

Description	Used On	Part No.
Spare Unit	DGAN, DGBN	DGNY-1-B
	DGCN	DGCY-1-B
Connector	With solder terminals	DMC-1
	With PC board terminals	DMC-2

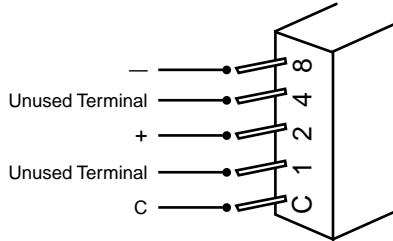


Description	Used On	Part No.
End Plate (in pairs)	DGAN, DGBN 0.078" (2mm) thick	DGNW-1-B
	DGCN 0.078" (2mm) thick	DGCW-1-B
	DGAN, DGBN 0.156" (4mm) thick	DGNW-2-B
	DGCN 0.156" (4mm) thick	DGCW-2-B

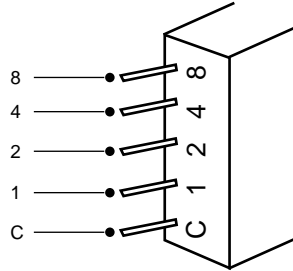
Output Codes

2-Position Repeat Unit

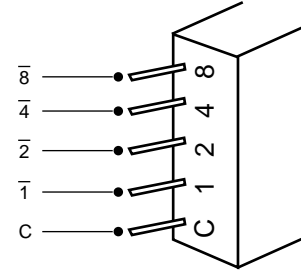
Do not connect any wiring to the unused terminals.



BCD (Binary Coded Decimal)



Complementary BCD



		Contact Condition		
Code No.		C	+	-
Contact Configuration and Switch Unit				
Terminal No.		C	0	1
Connector Terminal No.	DL	-	-	-
	DE	-	-	-
	DF	7	9	5
	DG	6	4	8
Preset Position	+		•	
	-			•
	+		•	
	-			•
	+		•	
	-			•
	+		•	
	-			•
	+		•	
	-			•

Applicable Units

- DL series (001)
- DE series (001)
- DF series (001)
- DG series (001)

		Contact Condition				
Code No.		C	1	2	4	8
Contact Configuration and Switch Unit						
Terminal No.		C	1	2	4	8
Connector Terminal No.	DL	-	-	-	-	-
	DE	-	-	-	-	-
	DF	7	11	9	5	3
	DG	6	2	4	8	10
Preset Position	0					
	1		•			
	2			•		
	3		•	•		
	4				•	
	5		•		•	
	6			•	•	
	7		•	•	•	
	8					•
	9		•			•

Applicable Units

- DL series (431)
- DE series (031)
- DF series (031)
- DG series (031)

		Contact Condition				
Code No.		C	1	2	4	8
Contact Configuration and Switch Unit						
Terminal No.		C	1	2	4	8
Connector Terminal No.	DL	-	-	-	-	-
	DF	7	11	9	5	3
	DG	-	-	-	-	-
Preset Position	0		•	•	•	•
	1			•	•	•
	2		•		•	•
	3				•	•
	4		•	•		•
	5			•		•
	6		•			•
	7					•
	8		•	•	•	
	9			•	•	

Applicable Units

- DF series (131)
- DG series (131)

Output Codes, continued

Decimal

Code No.		Contact Condition										
		C	0	1	2	3	4	5	6	7	8	9
Contact Configuration and Switch Unit												
Terminal No.		C	0	1	2	3	4	5	6	7	8	9
Connector Terminal No.	DE	—	—	—	—	—	—	—	—	—	—	—
	DF	6	11	10	9	8	7	5	4	3	2	1
	DG	6	2	3	4	5	7	8	9	10	11	12
Preset Position	0		•									
	1			•								
	2				•							
	3					•						
	4						•					
	5							•				
	6								•			
	7									•		
	8										•	
	9											•

Applicable Units

DE series (010)
DF series (010)
DG series (010)



The DL and DE series do not have connector terminals. The DF and DG series have connector terminals.

BCD with Odd Parity

Code No.		Contact Condition					
		C	1	2	4	8	P
Contact Configuration and Switch Unit							
Terminal No.		C	1	2	4	8	P
Connector Terminal No.	DF	7	11	9	5	3	1
	DG	6	2	4	8	10	12
Preset Position	0						•
	1		•				
	2			•			
	3		•	•			•
	4				•		
	5		•		•		•
	6			•	•		•
	7		•	•	•		
	8					•	
	9		•			•	•

Applicable Units

DF series (031P)
DG series (031P)



Output Codes, continued

Duodecimal

Code No.		Contact Condition				
		C	1	2	4	8
Contact Configuration and Switch Unit						
Terminal No.		C	1	2	4	8
Connector Terminal No.	DF	7	11	9	5	3
	DG	6	2	4	8	10
Preset Position	0					
	1		•			
	2			•		
	3		•	•		
	4				•	
	5		•		•	
	6			•	•	
	7		•	•	•	
	8					•
	9		•			•
	10			•		•
	11		•	•		•

Applicable Units

DF series (032)
DG series (032)

Hexadecimal

Code No.		Contact Condition				
		C	1	2	4	8
Contact Configuration and Switch Unit						
Terminal No.		C	1	2	4	8
Connector Terminal No.	DF	7	11	9	5	3
	DG	6	2	4	8	10
Preset Position	0					
	1		•			
	2			•		
	3		•	•		
	4				•	
	5		•		•	
	6			•	•	
	7		•	•	•	
	8					•
	9		•			•
	A			•		•
	B		•	•		•
	C				•	•
	D		•		•	•
	E			•	•	•
	F		•	•	•	•

Applicable Units

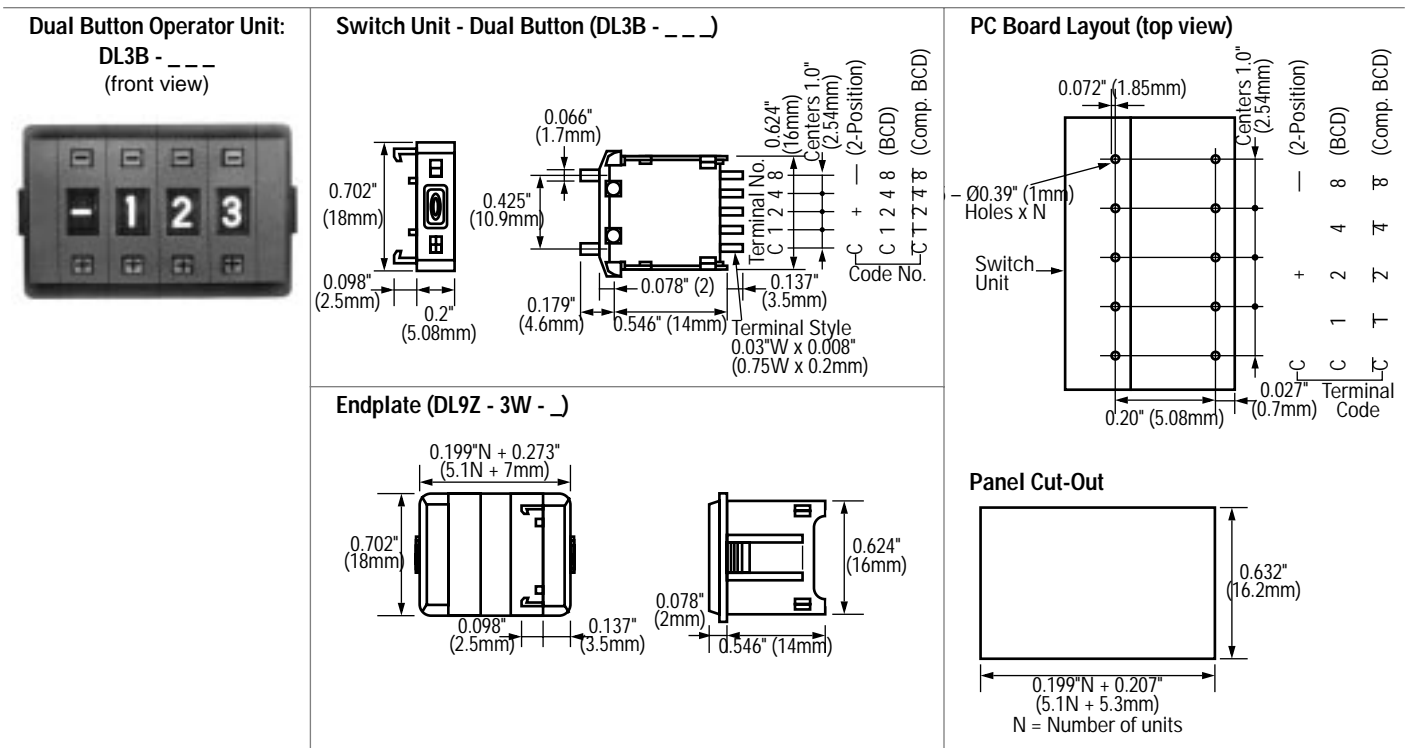
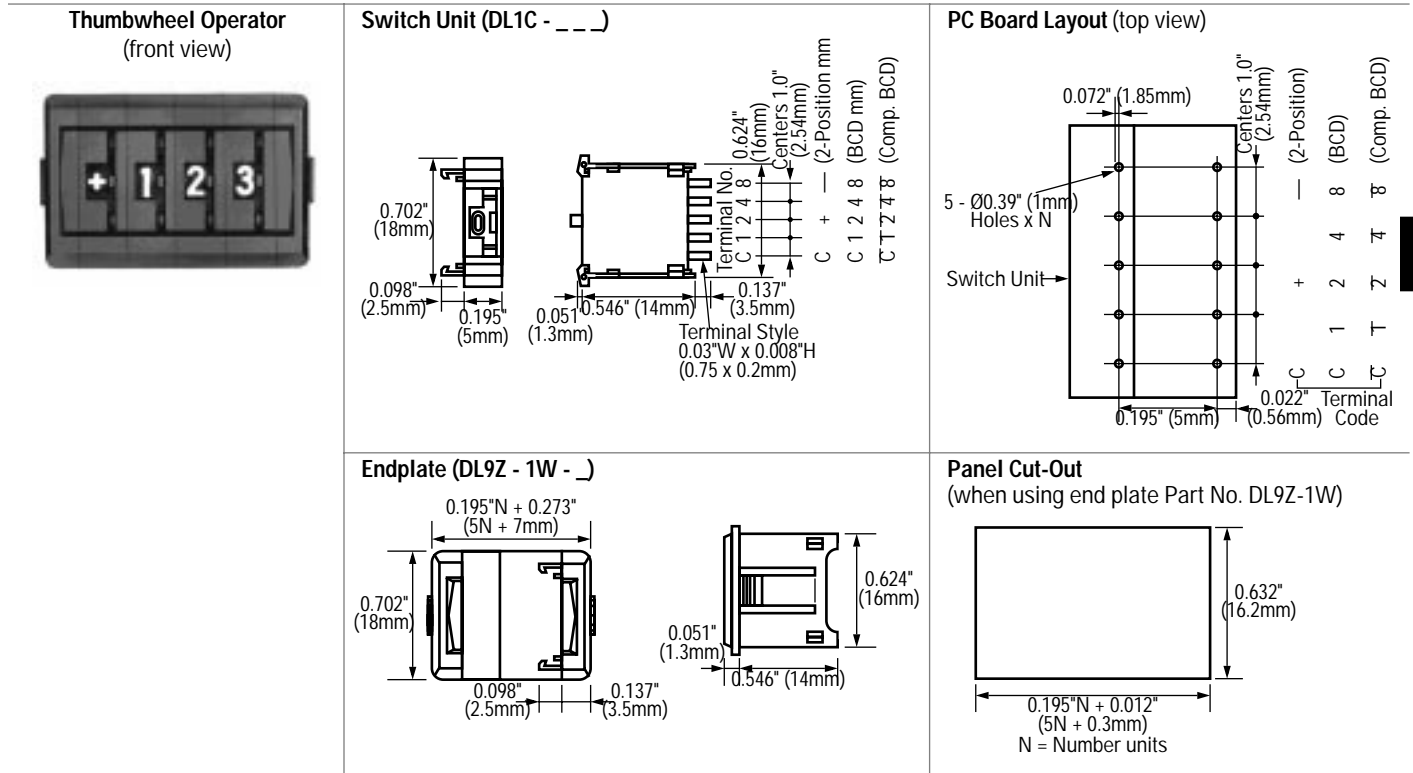
DF series (036)
DG series (036)



Dimensions and Mounting Hole Layouts

DL Series

Front Mount 0.195" (5mm) Wide



1. N=The number of switch and spare units. Panel thickness = 0.078" (2mm).
 2. The width of the panel cut-out applies to a maximum of 10 switch units mounted (including spare units).

Dimensions and Mounting Hole Layout, continued

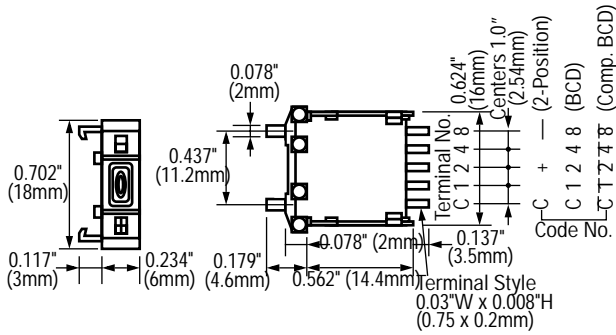
DL Series

Front Mount 0.234" (6mm) Wide

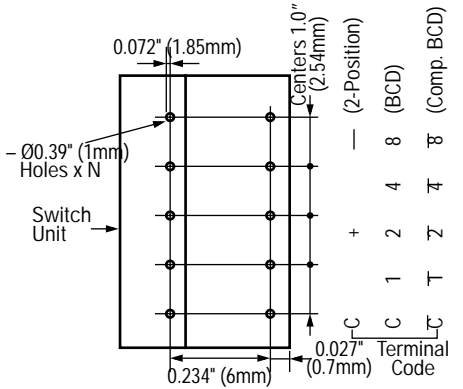
Dual Button Operator Unit:
DL5B - _ _ _ _
(front view)



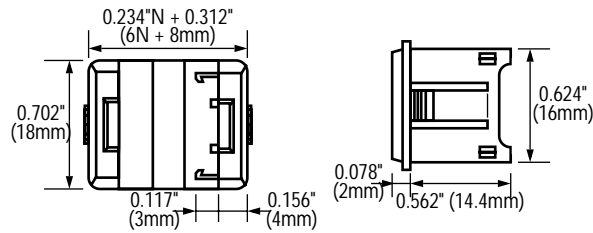
Switch Unit – Dual Button (DL5B - _ _ _ _)



PC Board Layout (top view)

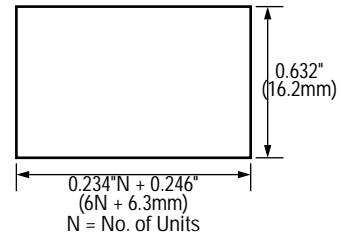


Enplate (DL9Z - 5W - _)



Panel Cut-Out

(when using end plate Part No. DL9Z-5W)



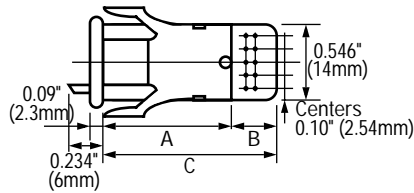
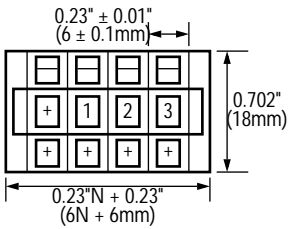
1. N=the number of switch and spare units. Panel thickness = 0.078" (2mm).
2. The width of the panel cut-out applies to a maximum of 10 switch units mounted (including spare units).

Dimensions and Mounting Hole Layout, continued

DE Series

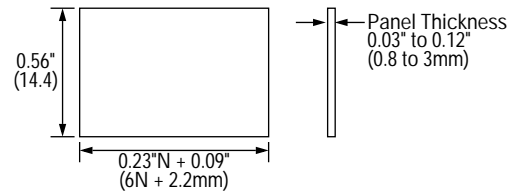
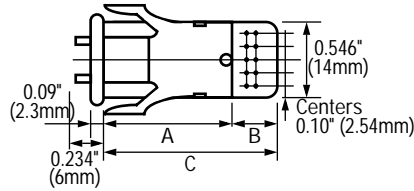
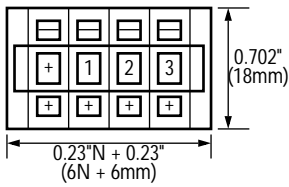
Front Mount 0.234" (6mm) Wide

DEAN (set lock)

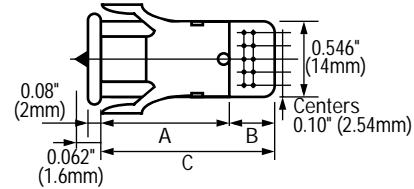
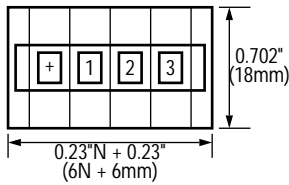


Front Mount (DE _)

DEBN (dual button)



DECN (thumbwheel)



Panel Cut-Out Dimensions (DE)

	Standard	With Diode Extension
A	0.59" (15mm)	0.66" (16mm)
B	0.312" (8mm)	0.74" (18.5mm)
C	0.9" (23mm)	1.4" (34.5mm)
D	0.9" (23mm)	1.3" (33.5mm)



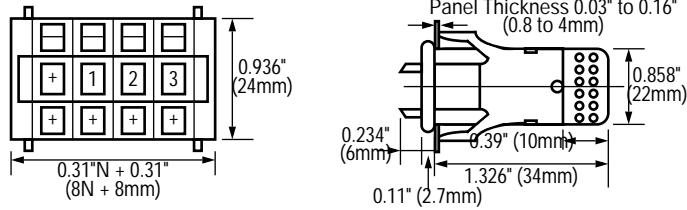
N = the number of switch units and spare units mounted, excluding endplates.



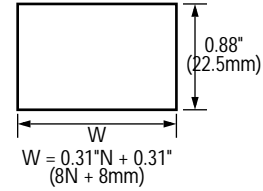
Dimensions and Mounting Hole Layout, continued

DF Series

DFAN (set-lock)



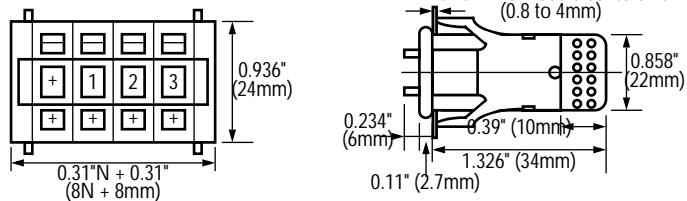
Panel Cut-Out Dimensions (DF)



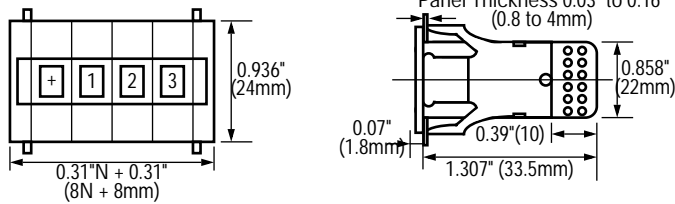
N = Number of Units

C

DFBN (dual button) 0.312" (8mm)

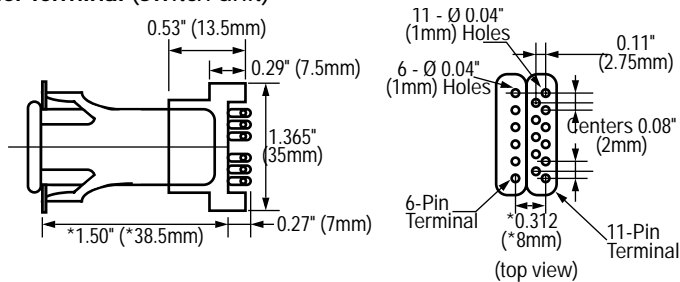


DFCN (thumbwheel) 0.312" (8mm)



N = the number of switch units and spare units mounted, excluding endplates.

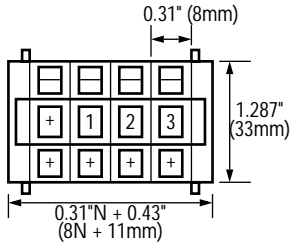
Solder Terminal (switch unit)



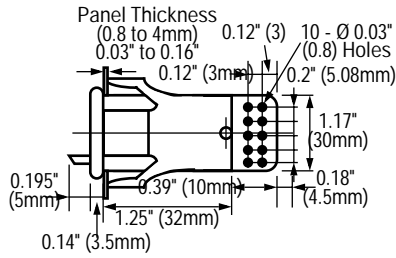
Dimensions and Mounting Hole Layout, continued

DG Series)

DGAN (set-lock)

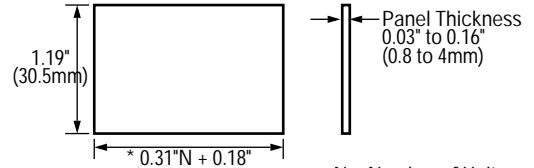


(front view)



Solder Terminal
(side view)

Panel Cut-Out



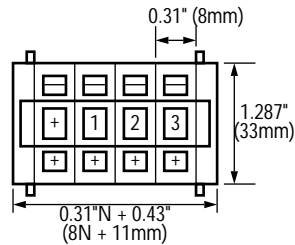
N = Number of Units

* $0.31''N + 0.18''$
($8N + 4.5\text{mm}$)
Or
** $0.31''N + 0.33''$
($8N + 8.5\text{mm}$)

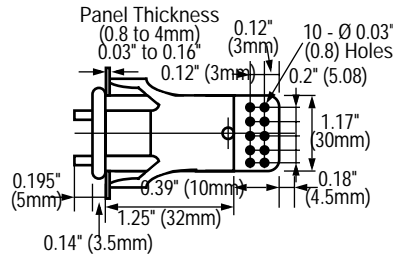
*When using End Plates DGNW-1 or DGCW-1
**When using End Plates DGNW-2 or DGCW-2



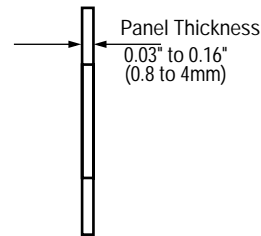
DGBN (dual button)



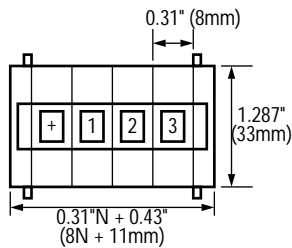
(front view)



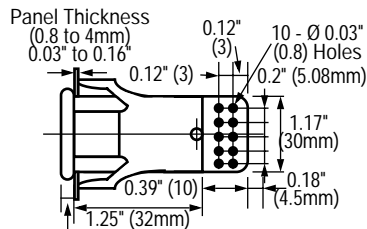
Solder Terminal
(side view)



DGCN (thumbwheel)

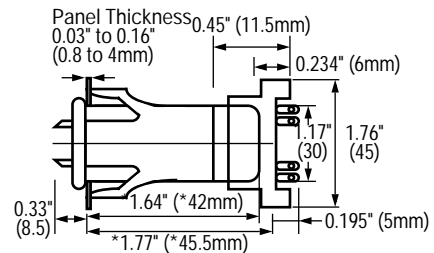


(front view)



Solder Terminal
(side view)

Solder Terminal Connector Dimensions



The width of the panel cut-out applies to a maximum of 10 switch units mounted (including spare units).

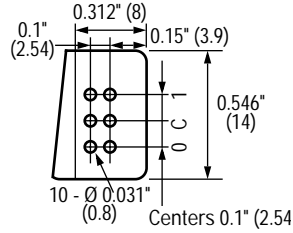
DE Terminal Arrangements

DF Terminal Arrangements

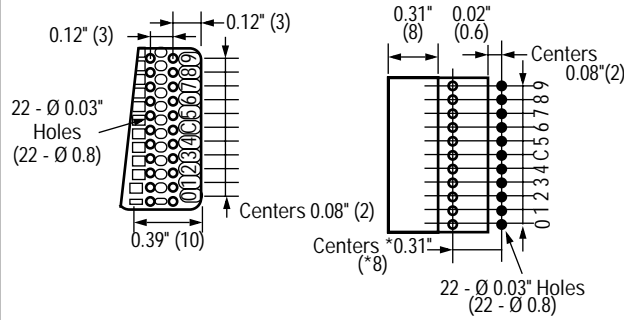
Dimensions in inches (mm).

Dimensions in inches (mm).

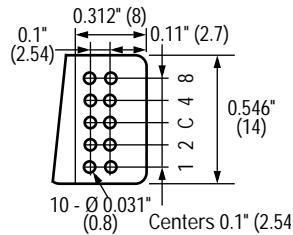
2-Position Repeat



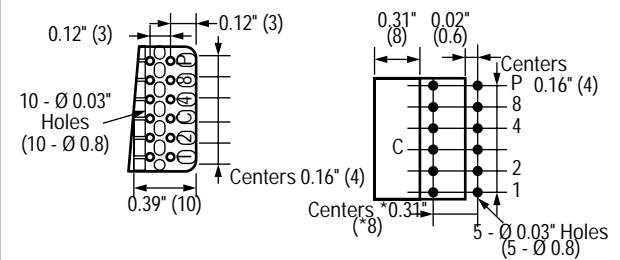
Decimal Unit



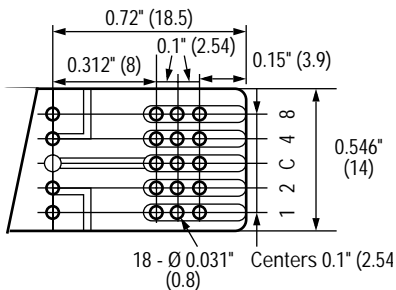
BCD



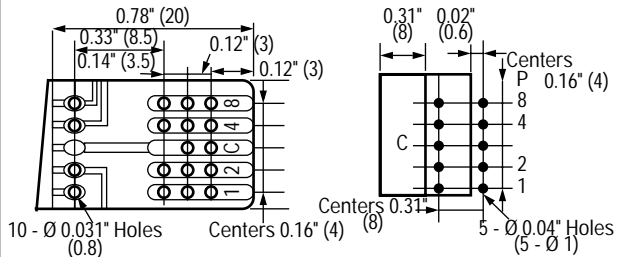
BCD with Odd Parity



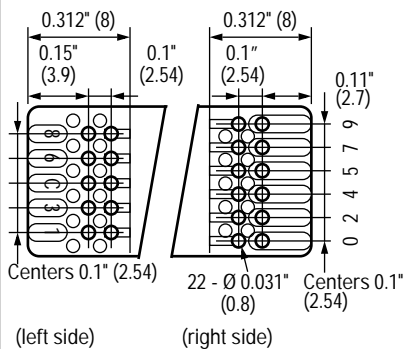
BCD with Connecting Diodes



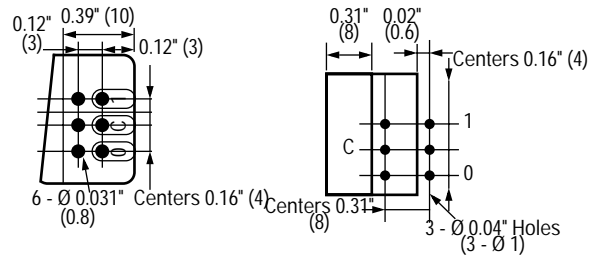
BCD with Connecting Diodes



Decimal



2-Position Repeat



DG Terminal Arrangements

Dimensions in inches (mm).

<p>2-Position Repeat — Diode Connection</p>	
<p>2-Position Repeat</p>	
<p>Decimal</p>	
<p>BCD, Duodecimal, Hexadecimal (diode connection)</p>	
<p>BCD, Duodecimal, Hexadecimal</p>	



General Instructions

Instructions

With the dual button units, the lower button is for incrementing and the upper button is for decrementing. Rotating the thumbwheel down increments the number, and rotating the thumbwheel up decrements the number.

Set-Lock Type

The button should be made accessible only when rotating the thumbwheel. Return the button to the recessed position when not used to prevent inadvertent actuation.

Installation and Maintenance

C Since the units snap together with hooks, no hardware is necessary for assembly. When mounting the switches into a panel cut-out, hold the assembly at the end plates and insert it from the front of the panel.

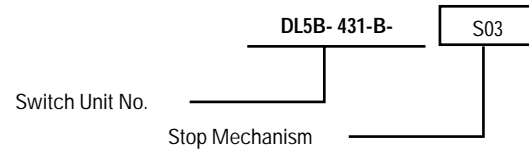
Use rubbing alcohol to clean the surfaces of the switch units, the soldered parts on the terminals, and the other molded parts. Do not use thinner or acids. Make sure that no solvent enters the switch housing.

When soldering, prevent the soldering flux and detergent from entering the switch housing.

To disassemble the switch units in the DL series, pull the units apart from the front. When using a flat screwdriver to disassemble, insert the screwdriver under the latch and turn gently.

Specifying Units with a Stop Mechanism

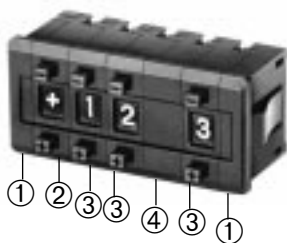
Example: Digital switch units with a stop mechanism to restrict wheel rotation within 0 and 3:



A stop mechanism can be actuated to restrict wheel rotation within 9 positions; -S09 or -S10 is not available. The wheel cannot be prevented from rotating between adjoining positions such as between 0 and 1 or between 9 and 0.

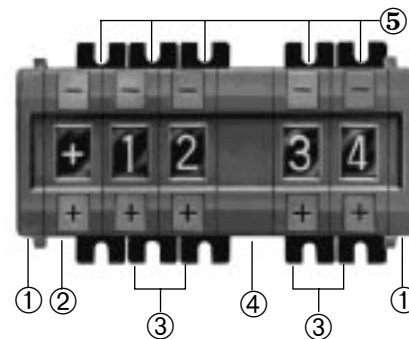
Ordering Information

When ordering, specify the part numbers and quantity of the switch units and accessories as shown in the following examples.



Specification Examples, Mounted Units

Unit	Item	Part No.	Qty. Req'd	Qty. in Pkg.
①	End plates	DL9Z-5W-B	2	2
②	Switch unit	DL5B-001-B	1	1
③	Switch unit	DL5B-431-B	3	1
④	Spare unit	DL9Z-5Y-B	1	1



Specification Examples, DFAN Assembly

Unit	Item	Part No.	Qty. Req'd	Qty. in Pkg.
①	End plates	DFNW-1-B	2	2
②	Switch unit	DFAN-001-B	1	1
③	Switch unit	DFNY-1-B	1	1
④	Spare unit	DFAN-031-B	4	1
⑤	Connector	DAC-061	5	1