

Rails for Switches and Sensors

L Selectable, No Hole (Shape A, B and C) / Slotted Holes (Shape C)

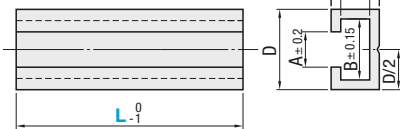
■Features: Aluminum rail blank. Hole machining is required for mounting. For hole machined products, refer to P2080.

Bar Nuts  P2083

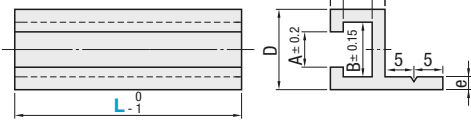
■ L Selectable

Type	Material	Surface Treatment	Part Number		
			L Selectable (Standard)		
			Shape A	Shape B	Shape C
No Hole	EN AW-6063-T5 Equiv.	Clear Anodize	SENAK	SENBK	SENC
Slotted Holes		Black Anodize	SENABK	-	SENCBK
		Clear Anodize	-	-	SENCHK

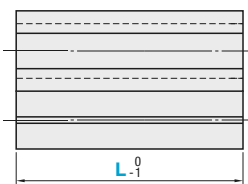
■ Shape A SENAK SENABK



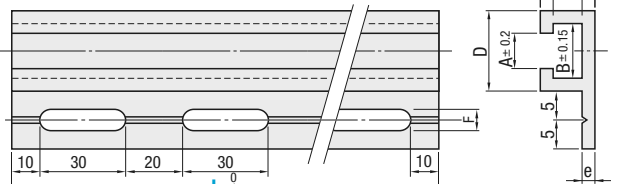
■ Shape B SENBK



■ Shape C SENC SENCBK



(Slotted Holes) SENCHK



	L100	L200	L300
Number of Slotted Holes	2	4	6

RoHS

⚡ No anodizing on the tip and inner surface.

■ L Selectable, No Hole / Slotted Holes ⚡ No. indicates the applicable nut size.

Bar Nuts  P2083

Part Number			L Selection	A	B	C	D	E	d	e	F
Type	No.										
(Clear Anodize) (Shape A)	SENABK	3	100 150 200 300 500	3.4	5.7	3.0	9	6.0	1.5	2	3.5
(Shape B)	SENBK	4		4.5	7.2	4.0	11	8.0	2.0		4.5
(Shape C)	SENCBK SENCHK (Slotted Holes)	5		5.5	8.2	5.5	12	9.5		3	5.5

⚡ L150 and L500 are not available for SENCHK (with Slotted Hole). ⚡ Only L300 and L500 are available for No. 4 of SENABK.



Ordering Example
Part Number - L
SENAK5 - 300

No.	Unit Price (Clear Anodize)												Unit Price (Black Anodize)											
	SENAK					SENBK, SENCK					SENCHK			SENABK					SENCBK					
	L100	L150	L200	L300	L500	L100	L150	L200	L300	L500	L100	L200	L300	L100	L150	L200	L300	L500	L100	L150	L200	L300	L500	
3																								
4																								
5																								

Rails for Switches and Sensors

L Configurable, No Hole (Shape A, B and C)

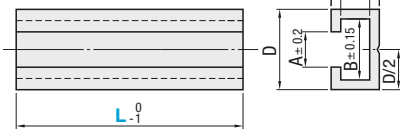
■Features: Aluminum rail blank. Hole machining is required for mounting. For hole machined products, refer to P2080.

Bar Nuts  P2083

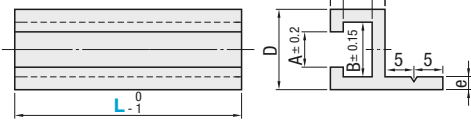
■ L Configurable

Type	Material	Surface Treatment	Part Number		
			L Configurable (Length Specifiable)		
			Shape A	Shape B	Shape C
No Hole	EN AW-6063-T5 Equiv.	Clear Anodize	SENA	SENB	SENC
		Black Anodize	SENA B	SENB B	SENC B

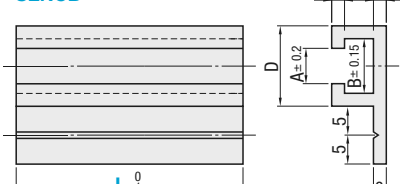
■ Shape A SENA SENA B



■ Shape B SENB SENB B



■ Shape C SENC SENC B



RoHS

⚡ No anodizing on ends.

■ L Configurable, No Hole ⚡ No. indicates the applicable nut size.

Bar Nuts  P2083

Part Number		L 1mm Increment	A	B	C	D	E	d	e
Type	No.								
(Clear Anodize) (Black Anodize)	2*	50~600	2.4	4.2	2.5	7.5	5.5	1.5	2
(Shape A) SENA SENAB	3	50~1200	3.4	5.7	3.0	9	6.0		
(Shape B) SENB SENBB	4		4.5	7.2	4.0	11	8.0	2.0	3
(Shape C) SENC SENC B	5		5.5	8.2	5.5	12	9.5		

* No. 2 is available for SENC (Shape C, Clear Anodize) only.

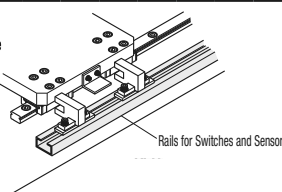


Ordering Example
Part Number - L
SENB3 - 400

No.	Unit Price (Clear Anodize)												Unit Price (Black Anodize)															
	SENA						SENB, SENC						SENA B						SENB B, SENC B									
	L50 100	L101 200	L201 400	L401 600	L601 800	L801 1000	L1001 1200	L50 100	L101 200	L201 400	L401 600	L601 800	L801 1000	L1001 1200	L50 100	L101 200	L201 400	L401 600	L601 800	L801 1000	L1001 1200	L50 100	L101 200	L201 400	L401 600	L601 800	L801 1000	L1001 1200
2																												
3																												
4																												
5																												



Example



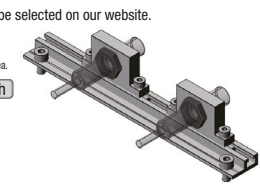
Nut P-241 
Rail
Bar Nut SQN, SQNS (P2083)

Combination of these app. examples can be selected on our website.

Selection Detail  P87

* Enter the search keyword in the search box on e-Catalog.
The search result will be shown in "Modular Assembly" area.

e-Catalog Search Keyword #MA401



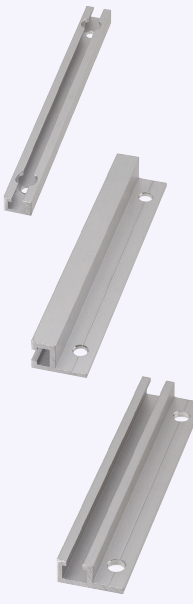
Rails for Switches and Sensors

L Configurable, Hole Position Fixed (Shape A, B and C)

Rails for Switches and Sensors

L Configurable, Hole Position Configurable Type (Shape B and C)

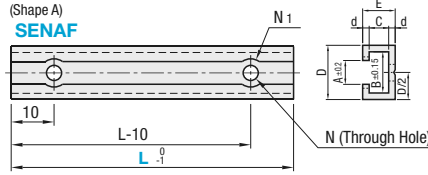
■ **Features:** Rails for Sensors with L Configurable and Hole Position Fixed. More economical than Hole Position Configurable Type. Bar Nuts  **P2083**



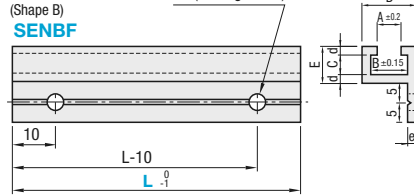
M	Material	S	Surface Treatment	Part Number		
				Shape A	Shape B	Shape C
EN AW-6063-T5	Equiv.	Clear Anodize		SENAF	SEBNF	SENCF

⚠ No anodizing on the tip and inner surface.
⚠ Burrs remain on the I.D. of the mounting holes.
⚠ No hole machining specification is required for this product.

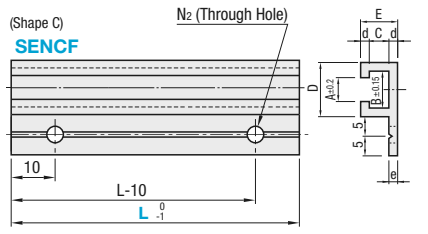
(Shape A) **SENAF**



(Shape B) **SEBNF**



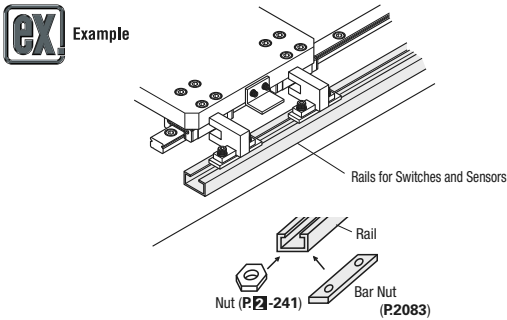
(Shape C) **SENCF**



■ **L Configurable, Hole Position Fixed** ⚠ No. indicates the applicable nut size. Bar Nuts  **P2083**

Part Number		L 1mm Increment	N	N ₁	N ₂	A	B	C	D	E	d	e	Unit Price			
													SENAF		SEBNF, SENCF	
Type	No.												L50~100	L101~200	L50~100	L101~200
(Shape A) SENAF	3	50~200	3.5	6.5	3.5	3.4	5.7	3.0	9	6.0	1.5	2				
(Shape B) SEBNF	4				4.5	4.5	7.2	4.0	11	8.0	2.0	2				
(Shape C) SENCF	5				5.5	5.5	8.2	5.5	12	9.5		3				

Ordering Example
Part Number - L
SENAF3 - 100
SENCF5 - 150

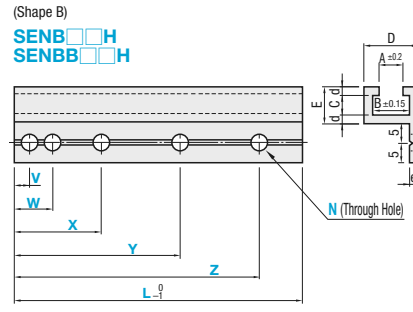




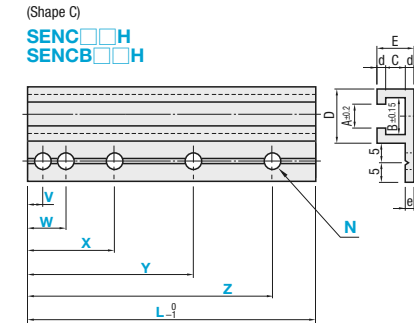
M	Material	S	Surface Treatment	Part Number	
				Shape B	Shape C
EN AW-6063-T5	Equiv.	Clear Anodize		SENB□□H	SENC□□H
		Black Anodize		SENBB□□H	SENCB□□H

⚠ No anodizing on the tip and inner surface.

(Shape B) **SENB□□H**
SENBB□□H



(Shape C) **SENC□□H**
SENCB□□H



■ **L Configurable, Hole Position Configurable** ⚠ Please specify the mounting hole pitch as N+1.5mm or more. ⚠ No. indicates the applicable nut size. Bar Nuts  **P2083**

Part Number			L 1mm Increment	V W X Y Z 1mm Increment	N 0.5mm Increment	A	B	C	D	E	d	e
Type	No.	H (Number of Holes)										
(Shape B) SENB SENBB	2*	2H 3H 4H 5H	50~600	5~595	3.5~5.5	2.4	4.2	2.5	7.5	5.5	1.5	2
	3		50~1200	5~1195		3.4	5.7	3.0	9	6.0		
4	4.5					7.2	4.0	11	8.0	2.0	3	
(Shape C) SENC SENCB	5					5.5	8.2	5.5	12			9.5

* No. 2 is available for SENC (Shape C, Clear Anodize) only. ⚠ When N is not specified, N=3.5 for No. 2 or 3, N=4.5 for No. 4 and N=5.5 for No. 5.

Ordering Example
Part Number - L - V - W - X - Y - Z - N
SENC 3 3H - 100 - V10 - W70 - X82 - N4.0
SENC 3 4H - 658 - V10 - W300 - X350 - Y648 - N4.5
SENC 3 5H - 1100 - V10 - W300 - X540 - Y648 - Z1090 - N5.0

No.	Body Price (Clear Anodize)							Body Price (Black Anodize)						
	L50~100	L101~200	L201~400	L401~600	L601~800	L801~1000	L1001~1200	L50~100	L101~200	L201~400	L401~600	L601~800	L801~1000	L1001~1200
2					-	-	-	-	-	-	-	-	-	-
3														
4														
5														

■ **Hole Machining Charge**
(Ex.) Part Number - L - V - W - N >>>
SENC32H - 200 - V10 - W70 - N4.5
(Unit Price in the Table)+ (Hole Machining Charge) = Unit Price for Through Hole Type

H (Number of Holes)	SENB, SENBB SENC, SENCB
Through Hole	
2H	200
3H	300
4H	400
5H	500

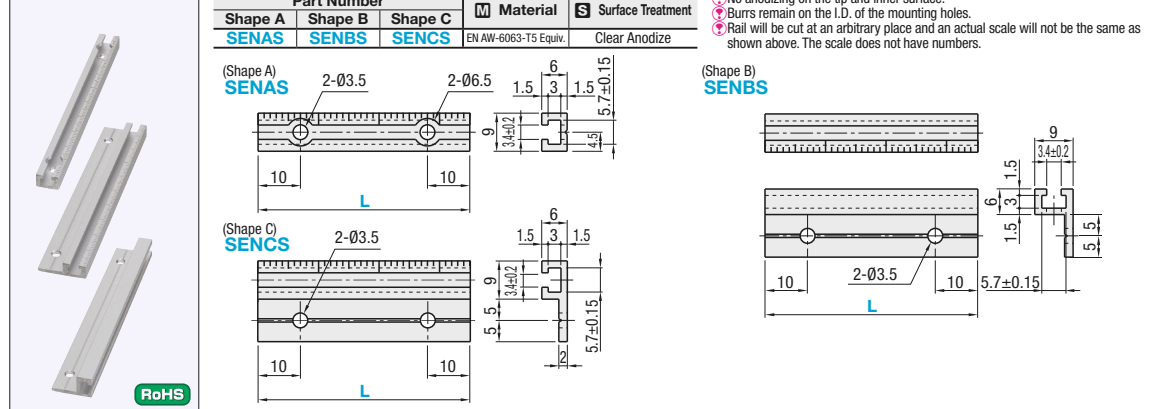
⚠ Unit Price = Body Price in the Table + Hole Machining Charge

Rails for Switches and Sensors / Bar Nuts

L Configurable, Calibrated (Shape A, B and C) / Rails for Photomicrosensors / Standard / With Nut Retainer

■ **Features:** Calibrated rails facilitate setup of sensors.

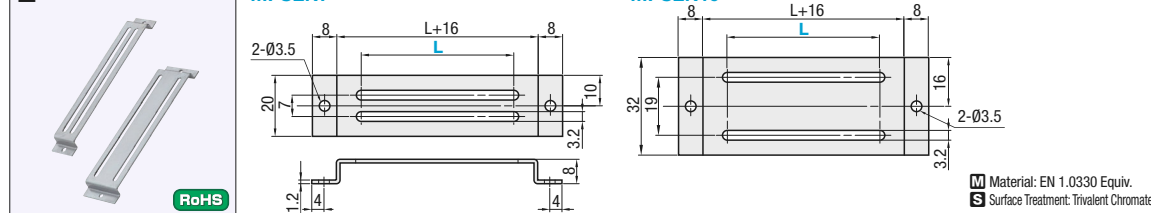
■ **L Configurable, Calibrated**



■ **L Configurable, Calibrated** (No. indicates the applicable nut size. For Shape A (SENAS), the inside of groove is slightly milled.)

Part Number	L 1mm Increment	Unit Price	Ordering Example	Part Number	L
Type	No.	SENAS SENBS SENCs		SENAS3 SENCS3	100 150
Shape A: SENAS Shape B: SENBS Shape C: SENCs	3	50~200			

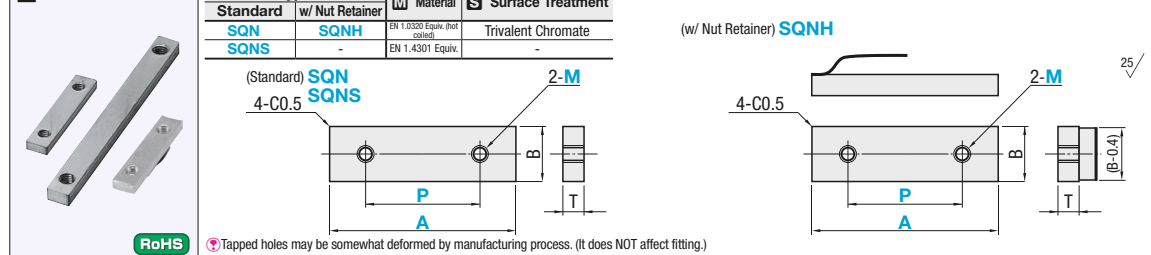
■ **Rails for Photomicrosensors**



Part Number	Pitch	L Selection	Unit Price
Type	No.		L50 L60 L70 L80 L90 L100
MPSEN	7, 19	50 60 70 80 90 100	

Ordering Example: Part Number - L, MPSEN7 - 70

■ **Bar Nuts**



Ordering Example: Part Number - A - P, SQN4 - 36 - 25.4

Part Number	A	P Selection	B	T	Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate
Type	M									
2	15	8	4.0	1.6	1.5					
25	18									
3	15	6 (8.3) 7*	5.4	2.3	2.0					
20	8	9 10* 12*								
25	14	16 18 19* 20*								
32	22	24 24.5								
4	25	16 (13) (10)	6.8	3.2	2.0					
32	20 (23) (23)									
36	25 (24)									
52	(33) (40) (42)									
5	40	25 28	7.8	3.2						
42	30 30.2									
52	32 40 42									
72	50 54 60									

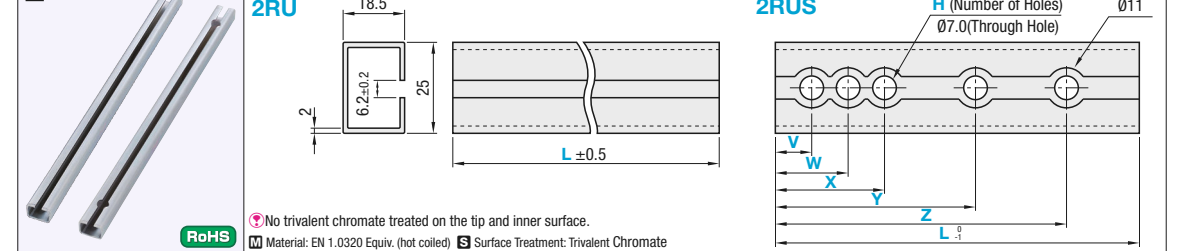
Dimensions in () are not applicable to SQNS. SQNH is applicable to P dimensions denoted with *. SQN2-25-10 and SQNS3-15-6.5 are not available. For orders larger than indicated quantity, please check with WOS.

Rails for Switches and Sensors / Rail Mount Fittings / Nuts for Rail

Steel, L Selectable / L and Hole Position Configurable

■ **Features:** Made of steel. Rails for large switches and sensors. Suitable when rigidity is required.

■ **Steel Rails**



Part Number	L Selection	Unit Price	Volume Discount Rate	Part Number	1mm Increment	Hole Machining Charge	Body Price
Type	No.	1 ~ 9 pc(s)	10~50	Type	Number of Holes	L	V W X Y Z
2RU	100 200 300 400 500 600 1000 1500			2RUS	0H (No Hole) 2H 3H 4H 5H	50~1200	10~1190

For orders larger than indicated quantity, please request a quotation.

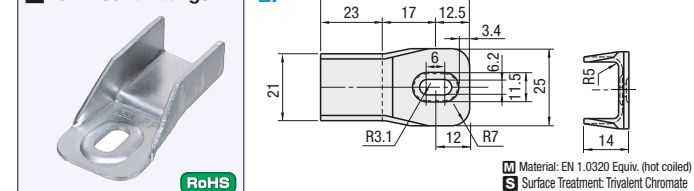
Ordering Example: Part Number - L - V - W - X - Y - Z, 2RU - 400, 2RUS5H - 660 - V30 - W180 - X330 - Y480 - Z630

Unit Prices of Length Configurable Hole Type = Body Price in the Table + Hole Machining Charge

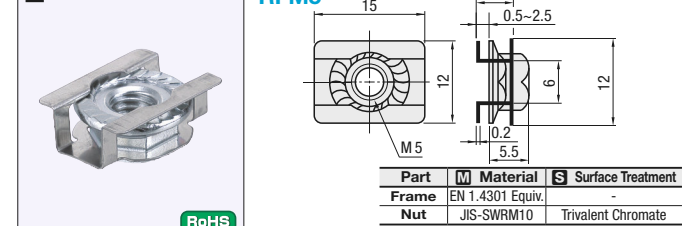
Example: Part Number - L - V - W - X - Y - Z, 2RUS2H - 300 - V100 - W200

- 2RU can be mounted in two ways. Screw on the rail by inserting rail mount fittings (2P) into both ends, or weld the rail directly onto a machine.
- For attachment of 2RUS, use M6 hex socket head cap screws. Applicable nut is RFM5. The RFM5 and the screws will not interfere as shown in the example.

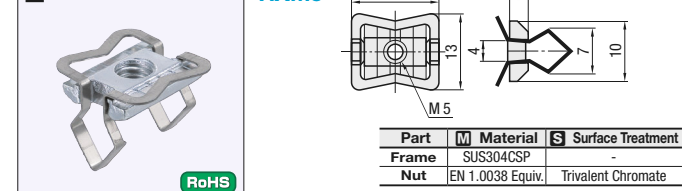
■ **Rail Mount Fittings**



■ **Nuts for Rail**



■ **Nuts for Rail**

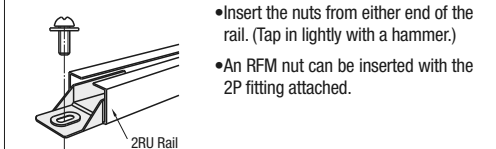


Part Number	Unit Price	Volume Discount Rate
1 ~ 99 pc(s)	100~149	150~199
200~300		

For orders larger than indicated quantity, please check with WOS.

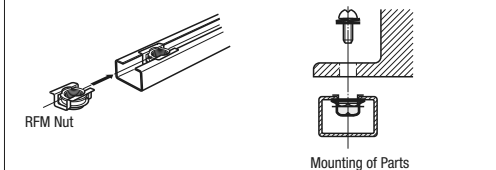
Ordering Example: Part Number - 2P RFM5

■ **How to Attach 2P**



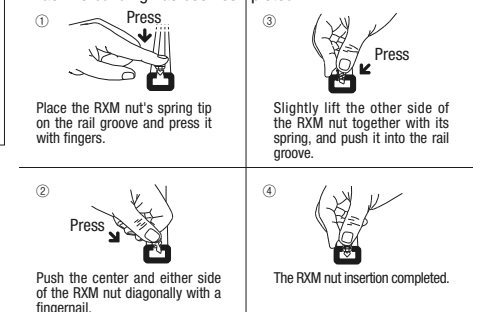
■ **How to Attach RFM Nuts**

- RFM and RXM nuts utilize stainless steel spring tension to prevent from falling even when installed on vertical rails.



■ **How to Attach RXM Nuts**

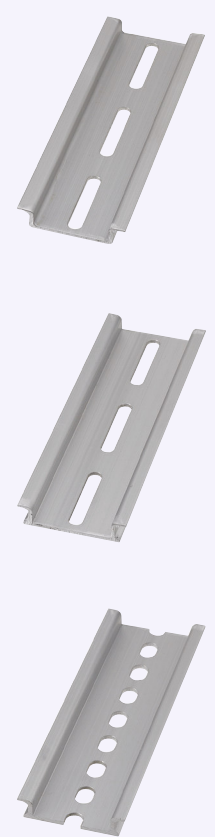
- The RXM nuts can easily be attached in the middle of a rail to facilitate convenient component additions even after the machine building has been completed.



DIN Rails

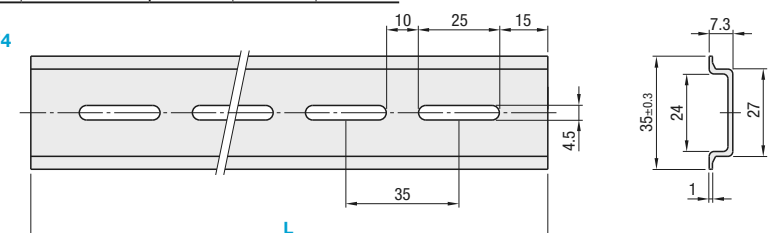
Simple Brackets / Grounding Blocks

■Features: DIN Rails for mounting amplifiers for fiber sensor or control panels.

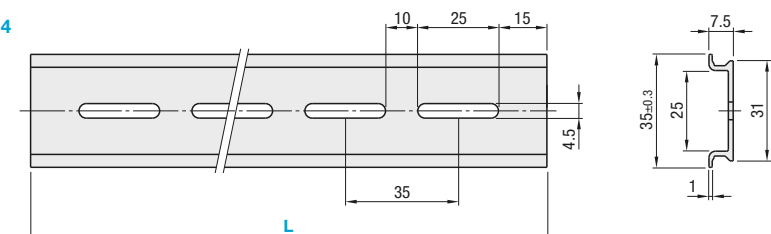


M	Material	S	Surface Treatment	Part Number		
				Installation Surface 27mm	Installation Surface 31mm	
				For M4	For M5	
EN AW-6063-T5	Equiv.	Clear Anodize	DNR274	DNR314	DNR315	

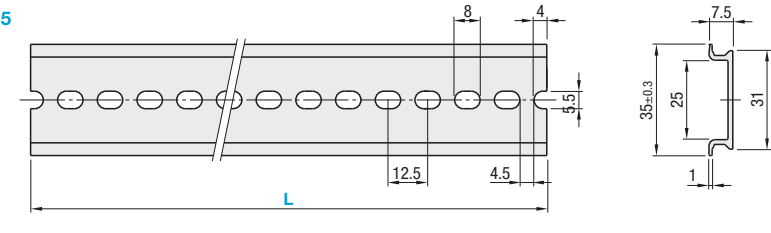
DNR274



DNR314



DNR315



RoHS

⚠ No anodizing on the tip and inner surface.
⚠ Burrs remain on the I.D. of the mounting holes.

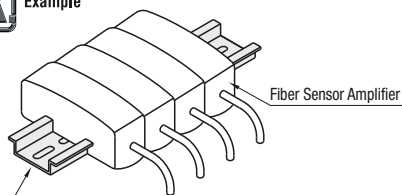
⚠ Rails with L=100, 150 and 200 will be cut at arbitrary hole positions. Thus, the dimensions from the end face shown in the drawing only apply to the case of L=1000.

Part Number	L Selection	DNR274, 314		DNR315	
		Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10 ~ 29 pcs. 30 ~ 50 pcs.	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10 ~ 50 pcs.
DNR274 DNR314 DNR315	100				
	150				
	200				
	1000				

 Ordering Example

Part Number - L
DNR274 - 150
DNR315 - 1000

 Example

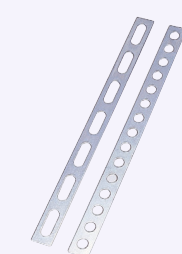


Fiber Sensor Amplifier

DNR274

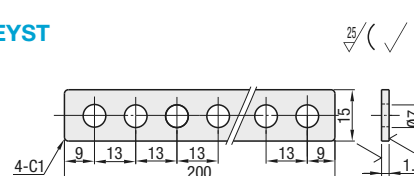
Suitable to mount an amplifier for optical fiber sensor.

■Simple Brackets

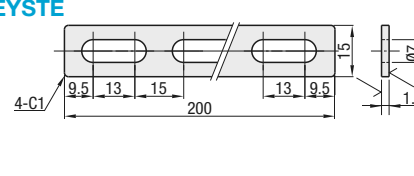


RoHS

EYST



EYSTE



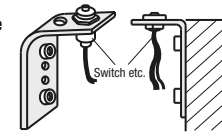
Material: EN 1.0330 Equiv. Surface Treatment: Trivalent Chromate

Part Number	Number of Mounting Holes	Unit Price
EYST	15	
EYSTE	7	

 Ordering Example

Part Number
EYST

 Example



Switch etc.

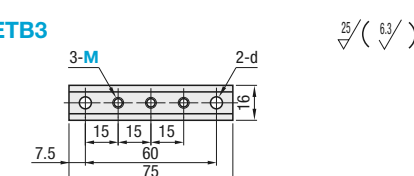
Can be bent at desired positions.

■Grounding Blocks

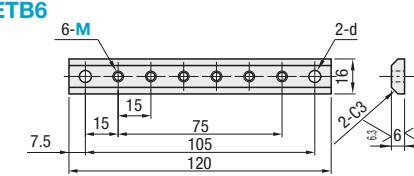


RoHS

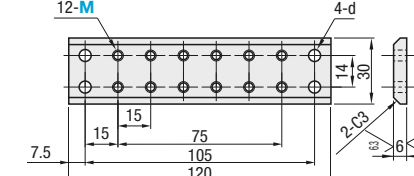
ETB3



ETB6



ETB12



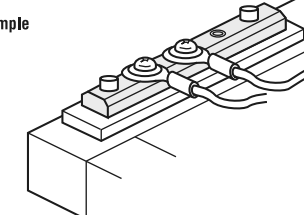
Material: C3604BE-F Surface Treatment: Electroless Nickel Plating

Part Number	M	d	Unit Price		
			ETB3	ETB6	ETB12
ETB3	4	4.5			
ETB6	5	5.5			
ETB12	6	6.6			

 Ordering Example

Part Number - M
ETB3 - 4

 Example



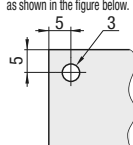
Dimension Configurable



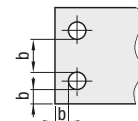
Hole Selections

■ Specifications / Machining Limits

- 1. For the Tolerances, refer to **P.2-1833**
- 2. Burr Height: 0.1 or less
- 3. Slotted Holes may be shaped as the following diagram depending on dimensions. (The function as a mounting hole is not affected.)



4. Anodizing on JTDZS with T4 or more will cause a hang hole to be formed as shown in the figure below.



5. **Machining Limits:** There are machining limits for thickness between hole and hole or between hole and end face. (Ex.: b part on the drawing below) **For the limit values, see PP2-1834**

For types other than JTD□□, JTMAS and JTNAS, A≥15, and B≥15 For Plate Thickness 6, B≥6
Although hole deformation may occur when a hole is too close to the end face, machining will follow the specification, if it falls within the Machining Limits

 N, NA Machining Dimensions

N, NA Designated Values	0	3	4	5	6	8	10
Through Hole Dia. (d)	(No Hole)	3.5	4.5	5.5	6.5	9	11



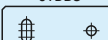
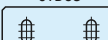
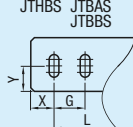
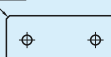
Part Number		A	B	T	X	F	Y	G	Hole Configurable ① Code / Nominal Dia.	K	L	V	S	W	Hole Configurable ② Code / Nominal Dia.	D	J
Type	Material Code																
JTDAS	SP	A80	B50	T3.2	X10				N5		L30						
JTAAS	SUD	A150	B80	T2.0	X10		Y10		N3		L100		S10	W50	NA4		



ns **Part Number** **Type** - **Material Code** **A** **B** **T** **X** **F** **Y** **G** **K** **L** **V** **S** **W** **D** **J** **(CC, RC)**

JTDAS **SP** **A80** **B50** **T32** **X10** **N5** **L30** **CC5**

① Code / Nominal Dia. ② Code / Nominal Dia.

Alteration	Slotted Hole Angle Change		Corner Cut
	JTDBS  JTDCS 	JTHBS JTBAS JTBSBS 	4-CC 
Code	RC		CC
Spec.	The slotted hole is changed as shown in the drawing above. 📌 Refer to the dimensional relationship. <u>Ordering Code</u> Adds RC to the end of the part number. (Ex.) ~ RC		CC=1mm Increment 1≤CC≤10 <u>Ordering Code</u> Adds CC to the end of the part number (Ex.) ~ CCS

[illegible]

Dimension Configurable



⚠ Material for plate thickness 4.5 and 6.0 is EN 1.0320
Equiv. (hot coiled).

(Common Dimension)

4-C2 or less

r

A

B

L

⚠ Anodizing on FALZS may cause a hang hole to be formed (see Specifications/Machining Limits).

2-Holes Configurable ①

N



2-Holes Configurable ②

NA



4-Holes Configurable ①

N
M

X
Y
Z
D
G
H
0.2

2-Holes Configurable ②

NA
MA

S
Y
V

 Parameters in green are optional. If these parameters are not specified, the hole alignment will be even against the center. For details,  P.2-1834

⚠ Although hole deformation may occur when a hole is too close to the end face or the bent section, machining will follow the specification, if it falls within the Machining Limits.

- ❗ 1. Burr Height: 0.1 or less
- ❗ 2. Bend Angle Tolerance $\pm 1^\circ$
- ❗ 3. Scratches caused by the press brake or swelling due to Bending may occur. For details about the above matter and for Bending r values, see **P2-1832**
- ❗ 4. Slotted Holes may be shaped as the following diagram depending on dimensions. (The function as a mounting hole is not affected.)

$$\boxed{\text{Body Price}} + \boxed{\text{Surface Treatment Charge}} = \boxed{\text{Price}}$$
[illegible]

Z-Shaped



⚠ Material for plate thickness 4.5 and 6.0 is EN 1.0320
Equiv. (hot coiled).

The top drawing shows a rectangular plate with a central vertical dashed line. The left vertical edge is labeled 'B', the bottom horizontal edge is labeled 'A', and the top corners are labeled '2-C2 or less'. The bottom drawing shows a bent plate with a horizontal section of length 'J' and a vertical section of height 'H'. The thickness of the plate is labeled 'T'. The inner radius of the bend is labeled 'r', and the outer radius is labeled 'r'.

✓

✓

11

✓

✓

1

⚠ When $T \geq 3.0$, $A \geq 30$.

⚠ Although hole deformation may occur when a hole is too close to the end face, machining will follow the specification, if it falls within the Machining Limits.

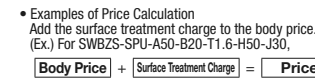
N, NA Designated Values	0	3	4	5	6	8	10
Through Hole Dia. (d)	(No Hole)	3.5	4.5	5.5	6.5	9	11



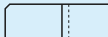
Part Number - A - B - T - H - J - X - Y - W - Role Configurable ① - K - F - E - S - G - Role Configurable ② - D

Type - Material Code

SWBAS - SP - A80 - B40 - T3.2 - H30 - J40 - X20 - Y10 - W20 - N4 - F40 - S6 - G28 - MA3



Hole	Screw Through Hole	Tapped Hole (Coarse)	Through Hole
Code	N, NA	M, MA	D
Diagram	For the d dimensions, refer to the "N, NA Machining Dimensions" section below the Specifications Table.		

		Corner Cut (2 Corners)	Corner Cut (4 Corners)
Alterations			
	Code	CC	WCC
Spec.		CC=1mm Increment ① $1 \leq CC \leq 10$ <u>Ordering Code</u> Adds CC to the end of the part number. (Ex.) ~ -CC10	WCC=1mm Increment ① $1 \leq WCC \leq 10$ <u>Ordering Code</u> Adds WCC to the end of the part number. (Ex.) ~ -WCC10

[illegible]