

# ET

## 小形トグルスイッチ Standard Size Toggle Switches

RoHS 指令対応 RoHS Compliant



### はじめに

ET小形トグルスイッチは電気用品安全法の対象品種はすべて型式認可を取得しております。ボックスは、耐熱性、耐アーク性、耐トラッキング性に優れた自己消火性フェノール樹脂を使用し、さらにチャタリング、バウシング時間を極力低減させた接触構造によりアークによる絶縁劣化を防止するよう設計された高性能スイッチです。

### Introduction

The ET series is our standard size high capacity toggle switch. The ET series is available in various current rating, switching functions, and terminals. The housing is made of self-extinguishing phenol resin which has excellent heat resistance, arc resistance, and tracking resistance. The contacts are designed to eliminate chattering and bouncing to prevent insulation deterioration.

### 形名の説明/Part Numbering

**E**      **T**      **2**      **25**      **K**      **12** - **Z**

シリーズ記号      操作部形状      極数      電流容量      スイッチ特性      端子形状  
Series code      Actuator shape      No. of poles      Current      Switching function      Terminal styles

| 数字/Fig. | 極数/No. of poles | 数字/Fig. | AC125V | AC250V | 数字/Fig. | AC125V | AC250V |
|---------|-----------------|---------|--------|--------|---------|--------|--------|
| 1       | 1pole           | 05      | 5A     | 3A     | 20      | 20A    | 12A    |
| 2       | 2poles          | 10      | 10A    | (7A)   | 25      | 25A    | 15A    |
| 3       | 3poles          | 15      | 15A    | 10A    | 30      | 30A    | (25A)  |
| 4       | 4poles          |         |        |        |         |        |        |
| 6       | 6poles          |         |        |        |         |        |        |

| 数字/Fig. | 端子形状/Terminal style                          |
|---------|--|
| なし/None | タブ端子/TAB#250                                 |
| 10      | ねじ端子/Screw Terminal                          |
| 12      | はんだ端子/Solder Terminal                        |
| 13      | プレート取り付け形はんだ端子/Plate Connect Solder Terminal |

| 1pole<br>3poles | 2poles<br>4poles<br>6poles | キー溝<br>Key way | キー溝<br>Key way | キー溝<br>Key way |
|-----------------|----------------------------|----------------|----------------|----------------|
| A               | K                          | ON             | —              | OFF            |
| C               | M                          | OFF            | —              | (ON)           |
| D               | N                          | ON             | —              | ON             |
| E               | P                          | ON             | OFF            | ON             |
| F               | —                          | ON             | —              | (ON)           |
| G               | S                          | (ON)           | OFF            | (ON)           |
| H               | —                          | ON             | OFF            | (ON)           |
| —               | PA                         | ON             | ON             | OFF            |


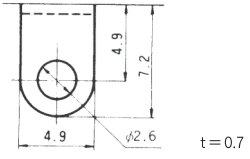

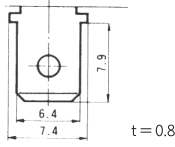

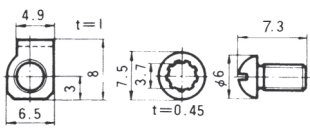

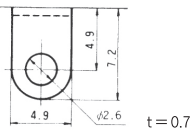

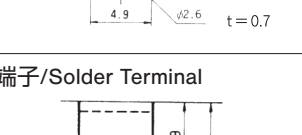

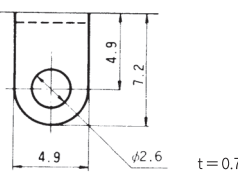

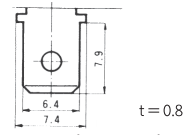

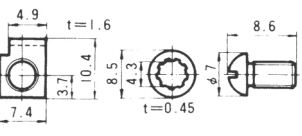

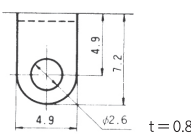
### 端子形状及び寸法

| タブ端子#250<br>数字:なし<br>TAB#250<br>(Style:-) | ねじ端子 (数字:10)<br>Screw Terminal (Style:10) |                | はんだ端子 Solder Terminal<br>(数字:12・13)<br>Solder Terminal<br>(Style:12・13) |
|---|---|----------------|---|
|   | M3.5×0.6                                  | M4.5×0.75      |   |
|   |   |                |   |
|   | ET115・215 Type                            | ET125・230 Type |   |


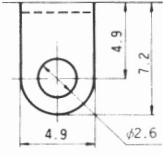


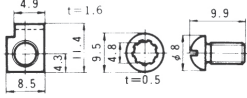

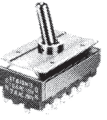
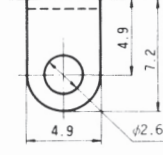
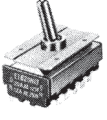
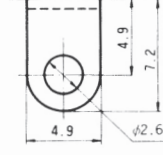
(ON),(OFF)は、モーメンタリーです。  
(ON) and (OFF) : Momentary.

# ET小形トグルスイッチ選択表

## ET Series Selection Table

| 形名<br>Part No. | 外觀・形状<br>Appearance   | 極数<br>No. of poles | 定格<br>Rating                 | スイッチ特性<br>Switching function  | 端子形状<br>Terminal style  |
|----------------|---|--------------------|------------------------------|---|---|
| ET105          |    | 1                  | AC125 V 5 A<br>AC250 V 3 A   | ON - OFF<br>ON - ON<br>ON - OFF - ON                                      | はんだ端子/Solder Terminal<br>            |
| ET110          |    | 1                  | AC125 V 10 A<br>AC250 V 7 A  | ON - OFF<br>ON - ON<br>ON - OFF - ON<br>ON - (ON)                         | タブ端子<br>TAB # 250<br>                |
| ET210          |    | 2                  |                              |   | ねじ端子/Screw Terminal (M3.5×0.6)<br>   |
| ET115          |    | 1                  | AC125 V 15 A<br>AC250 V 10 A | ON - OFF<br>OFF - (ON)<br>ON - ON<br>(ON) - OFF - (ON)<br>ON - OFF - (ON) | はんだ端子<br>Solder Terminal<br>        |
| ET215          |   | 2                  |                              |   | ねじ端子/Screw Terminal (M4.5×0.6)<br> |
| ET315          |  | 3                  |                              |   | はんだ端子/Solder Terminal<br>          |
| ET120          |  | 1                  | AC125 V 20 A<br>AC250 V 12 A | ON - OFF  | タブ端子<br>TAB # 250<br>              |
| ET125          |  | 1                  | AC125 V 25 A<br>AC250 V 15 A | ON - OFF<br>ON - ON<br>ON - OFF - ON                                      | ねじ端子/Screw Terminal (M4.5×0.6)<br> |
| ET225          |  | 2                  |                              |   | はんだ端子<br>Solder Terminal<br>       |

(ON)は、モーメンタリーです。  
(ON):Momentary.

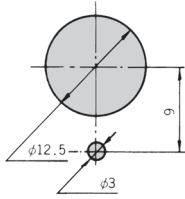
| 形名<br>Part No.                   | 外観・形状<br>Appearance   | 極数<br>No. of<br>poles | 定格<br>Rating                 | スイッチ特性<br>Switching function         | 端子形状<br>Terminal style   |
|----------------------------------|---|-----------------------|------------------------------|--------------------------------------|--|
| ET425                            |    | 4                     | AC125 V 25 A<br>AC250 V 15 A | ON - OFF<br>ON - ON                  | はんだ端子/Solder Terminal<br> t=0.7     |
| ET220                            |    | 2                     | AC125 V 20 A<br>AC250 V 12 A | ON - OFF<br>ON - ON                  | はんだ端子/Solder Terminal  |
| ET230                            |    | 2                     | AC125 V 30 A<br>AC250 V 25 A | ON - ON<br>ON - OFF - ON             | ねじ端子/Screw Terminal (M4.5×0.75)<br> |
| ET310                            |   | 3                     | AC125 V 10 A<br>AC250 V 7 A  | ON - OFF<br>ON - ON<br>ON - OFF - ON | はんだ端子/Solder Terminal  |
| ET610N<br>プレートタイプ<br>/Plate type |  | 6                     | AC125 V 10 A<br>AC250 V 7 A  | ON - ON                              | はんだ端子/Solder Terminal<br> t=0.7   |
| ET620N<br>プレートタイプ<br>/Plate type |  | 6                     | AC125V 20A<br>AC250V 12A     | ON - ON                              | はんだ端子/Solder Terminal<br> t=0.7   |

● 定格表示は抵抗負荷によります。

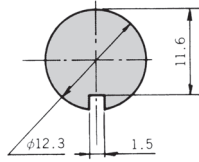
● Ratings are based on resistance load.

■パネル抜孔図/Panel Cut-Out Dimensions

取付パネル有効板厚 : 5.5ミリ 以下  
Panel thickness : 5.5mm max.



ロックリングを使用の場合  
With Locking Ring



ロックリングを使用しない場合  
Without Locking Ring

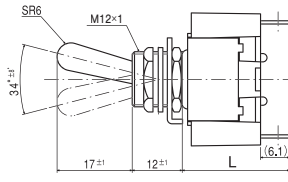
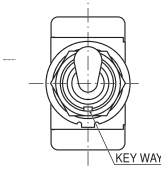
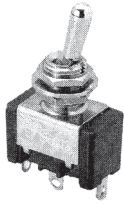
●別売付属部品は各種そろえてございますので、付属部品一覧表をご参照ください。  
Refer to for a list of accessories.

(ご注意) ET小形トグルスイッチの有効板厚は指定のない場合は、5.5ミリ以下とする。

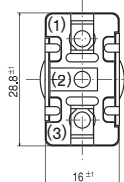
Note : Panel thickness should be 5.5 mm max. unless otherwise specified.

ET105□12 (単極/1 pole)

スイッチ特性[A]タイプは、(2)番端子がありません。  
Terminal pin No.2 is not available in switches with Switching Function "A".



端子番号はボックスに表示してあります。  
Terminal numbers are shown on the bottom of the switch.



L寸法/L dimensions

| 端子形状<br>Terminal style | はんだ端子<br>Solder Terminal |
|------------------------|--------------------------|
| 形名 Part No.            |                          |
| ET105A12-Z             | 24.6 <sup>±1</sup>       |
| ET105D12-Z             | 24.6 <sup>±1</sup>       |
| ET105E12-Z             | 24.6 <sup>±1</sup>       |

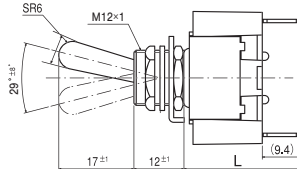
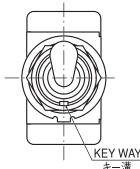
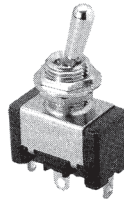
■仕様/Specifications

| 定格<br>Rating | 初期接触抵抗<br>Initial contact resistance | 耐電圧<br>Dielectric strength | 絶縁抵抗<br>Insulation resistance | 電気的寿命<br>Electrical life |
|--------------|--------------------------------------|----------------------------|-------------------------------|--------------------------|
| ET105A12     | 20 mΩ Max.<br>(DC2 V 100 mA)         | AC1500 V<br>1分間/minute     | 100 MΩ Min.<br>(DC500V)       | 20,000回<br>cycles        |
| ET105D12     |                                      |                            |                               |                          |
| ET105E12     |                                      |                            |                               |                          |

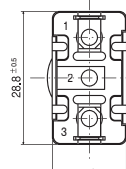
| スイッチ特性<br>Switching function | キー溝<br>Key way | キー溝<br>Key way | キー溝<br>Key way |
|------------------------------|----------------|----------------|----------------|
| 形名 Part No.                  |                |                |                |
| ☆ ET105A12-Z                 | ON             | —              | OFF            |
| 接続端子<br>Connecting terminals | 1-3            | —              | —              |
| ☆ ET105D12-Z                 | ON             | —              | ON             |
| ☆ ET105E12-Z                 | ON             | OFF            | ON             |
| 接続端子<br>Connecting terminals | 2-3            | —              | 2-1            |

ET110 (単極/1 pole)

スイッチ特性[A]タイプは、2番端子がありません。  
Terminal pin No.2 is not available in switches with Switching Function "A".



端子番号はボックスに表示してあります。  
Terminal numbers are shown on the bottom of the switch.



L寸法/L dimensions

| 端子形状<br>Terminal style | タブ端子<br>TAB#250    | ねじ端子<br>Screw Terminal | はんだ端子<br>Solder Terminal |
|------------------------|--------------------|------------------------|--------------------------|
| 形名 Part No.            |                    |                        |                          |
| ET110A■-D■-Z           | —                  | —                      | 24.6 <sup>±1</sup>       |
| ET110E■-Z              | —                  | —                      | 24.6 <sup>±1</sup>       |
| ET110F■-Z              | 27.6 <sup>±1</sup> | —                      | 24.6 <sup>±1</sup>       |

■仕様/Specifications

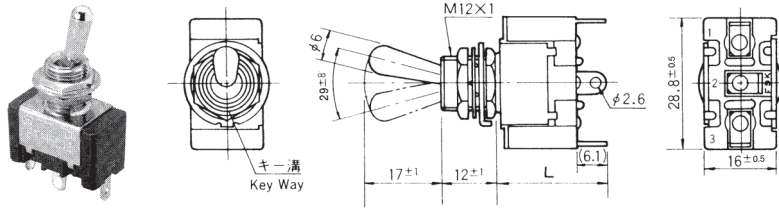
| 定格<br>Rating                  | 初期接触抵抗<br>Initial contact resistance | 耐電圧<br>Dielectric strength | 絶縁抵抗<br>Insulation resistance | 電気的寿命<br>Electrical life |
|-------------------------------|--------------------------------------|----------------------------|-------------------------------|--------------------------|
| ET110A■<br>ET110D■<br>ET110E■ | 20 mΩ Max.<br>(DC2V 100 mA)          | AC1500V<br>1分間/minute      | 100 MΩ Min.<br>(DC500 V)      | 30,000<br>cycles         |
| ET110F■                       |                                      |                            |                               | 20,000<br>cycles         |
|                               |                                      |                            |                               |                          |

| スイッチ特性<br>Switching function | キー溝<br>Key way | キー溝<br>Key way | キー溝<br>Key way |
|------------------------------|----------------|----------------|----------------|
| 形名 Part No.                  |                |                |                |
| ET110A■-Z                    | ON             | —              | OFF            |
| 接続端子<br>Connecting terminals | 1-3            | —              | —              |
| ET110D■-Z                    | ON             | —              | ON             |
| ET110E■-Z                    | ON             | OFF            | ON             |
| ET110F■-Z                    | ON             | —              | (ON)           |
| 接続端子<br>Connecting terminals | 2-3            | —              | 2-1            |

■印の形名確認は、品種一覧表をご参照ください。  
■ : Refer to "Table of Part Numbers" for a full list of part numbers.

ET115 (単極/1 pole)

スイッチ特性[A][B][C]タイプは、2番端子がありません。  
Terminal pin No.2 is not available in switches with  
Switching Function "A", "B", or "C".



端子番号はボックスに表示してあります。  
Terminal numbers are shown on the bottom of the switch.

仕様/Specifications

| 規格<br>Rating                  | 初期接触抵抗<br>Initial contact<br>resistance | 耐電圧<br>Dielectric<br>strength | 絶縁抵抗<br>Insulation<br>resistance | 電気的寿命<br>Electrical<br>life |                  |
|-------------------------------|---|-------------------------------|----------------------------------|-----------------------------|------------------|
| ET115A■<br>ET115D■<br>ET115E■ | AC125 V 15 A<br>AC250 V 10 A            | 20 mΩ Max.<br>(DC2V 100 mA)   | AC1500 V<br>1分間/minute           | 100 MΩ Min.<br>(DC500 V)    | 30,000<br>cycles |
| ET115C■<br>ET115G■<br>ET115H■ | AC125 V 15 A<br>AC250 V 10 A            |                               |                                  |                             |                  |

寸法/L dimensions

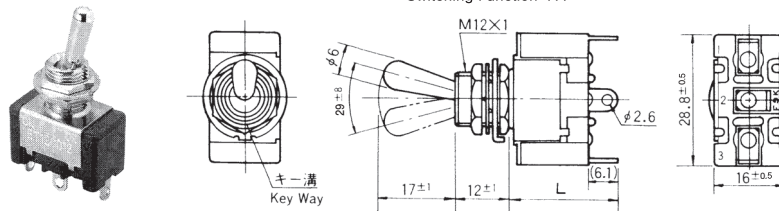
| 端子形状<br>Terminal<br>style | タブ端子<br>TAB#250 | ねじ端子<br>ScrewTerminal | はんだ端子<br>Solder Terminal |
|---------------------------|-----------------|-----------------------|--------------------------|
| 形名 Part No.               |                 |                       |                          |
| ET115A■・D■-Z              | 27.6±1          | 25.4±1                | 24.6±1                   |
| ET115E■-Z                 | 27.6±1          | 25.4±1                | 24.6±1                   |
| ET115C■・F~H■-Z            | -               | 25.4±1                | 24.6±1                   |

| スイッチ特性<br>Switching<br>function | キー溝<br>Key way | キー溝<br>Key way | キー溝<br>Key way |
|---------------------------------|----------------|----------------|----------------|
| 形名<br>Part No.                  |                |                |                |
| ET115A■-Z                       | ON             | —              | OFF            |
| 接続端子<br>Connecting terminals    | 1-3            | —              | —              |
| ET115C■-Z                       | OFF            | —              | (ON)           |
| 接続端子<br>Connecting terminals    | —              | —              | 1-3            |
| ET115D■-Z                       | ON             | —              | ON             |
| ET115E■-Z                       | ON             | OFF            | ON             |
| ET115G■-Z                       | (ON)           | OFF            | (ON)           |
| ET115H■-Z                       | ON             | OFF            | (ON)           |
| 接続端子<br>Connecting terminals    | 2-3            | —              | 2-1            |

■印の形名確認は、品種一覧表をご参照ください。  
■: Refer to "Table of Part Numbers" for a full list of part numbers.

ET120 (単極/1 pole)

スイッチ特性[A]タイプは、2番端子がありません。  
Terminal pin No.2 is not available in switches with  
Switching Function "A".



端子番号はボックスに表示してあります。  
Terminal numbers are shown on the bottom of the switch.

仕様/Specifications

| 規格<br>Rating | 初期接触抵抗<br>Initial contact<br>resistance | 耐電圧<br>Dielectric<br>strength | 絶縁抵抗<br>Insulation<br>resistance | 電気的寿命<br>Electrical<br>life |                  |
|--------------|---|-------------------------------|----------------------------------|-----------------------------|------------------|
| ET120A■      | AC125 V 20 A<br>AC250 V 12 A            | 20 mΩ Max.<br>(DC2 V 100 mA)  | AC1500V<br>1分間/minute            | 100 MΩ Min.<br>(DC500 V)    | 20,000<br>cycles |

寸法/L dimensions

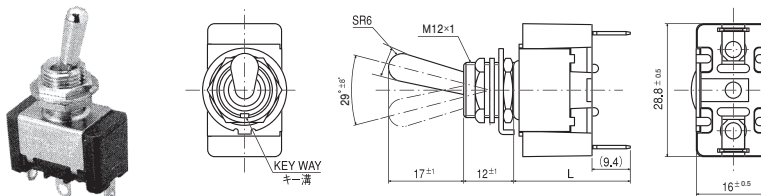
| 端子形状<br>Terminal<br>style | タブ端子<br>TAB#250 | ねじ端子<br>ScrewTerminal | はんだ端子<br>Solder Terminal |
|---------------------------|-----------------|-----------------------|--------------------------|
| 形名 Part No.               |                 |                       |                          |
| ET120A■-Z                 | —               | —                     | 24.6±1                   |

| スイッチ特性<br>Switching<br>function | キー溝<br>Key way | キー溝<br>Key way | キー溝<br>Key way |
|---------------------------------|----------------|----------------|----------------|
| 形名<br>Part No.                  |                |                |                |
| ET120A■-Z                       | ON             | —              | OFF            |
| 接続端子<br>Connecting terminals    | 1-3            | —              | —              |

■印の形名確認は、品種一覧表をご参照ください。  
■: Refer to "Table of Part Numbers" for a full list of part numbers.

ET125 (単極/1 pole)

スイッチ特性[A]タイプは、2番端子がありません。  
Terminal pin No.2 is not available in switches with  
Function "A".



端子番号はボックスに表示してあります。  
Terminal numbers are shown on the bottom of the switch.

仕様/Specifications

| 規格<br>Rating | 初期接触抵抗<br>Initial contact<br>resistance | 耐電圧<br>Dielectric<br>strength | 絶縁抵抗<br>Insulation<br>resistance | 電気的寿命<br>Electrical<br>life |                  |
|--------------|---|-------------------------------|----------------------------------|-----------------------------|------------------|
| ET125D■      | AC125 V 25 A<br>AC250 V 15 A            | 20 mΩ Max.<br>(DC2V 100 mA)   | AC1500 V<br>1分間/minute           | 100 MΩ Min.<br>(DC500 V)    | 20,000<br>cycles |

寸法/L dimensions

| 端子形状<br>Terminal<br>style | タブ端子<br>TAB#250 | ねじ端子<br>ScrewTerminal | はんだ端子<br>Solder Terminal |
|---------------------------|-----------------|-----------------------|--------------------------|
| 形名 Part No.               |                 |                       |                          |
| ET125D■-Z                 | 27.6±1          | 28.8±1                | 24.6±1                   |

| スイッチ特性<br>Switching<br>function | キー溝<br>Key way | キー溝<br>Key way | キー溝<br>Key way |
|---------------------------------|----------------|----------------|----------------|
| 形名<br>Part No.                  |                |                |                |
| ET125D■-Z                       | ON             | —              | ON             |
| 接続端子<br>Connecting terminals    | 2-3            | —              | 2-1            |

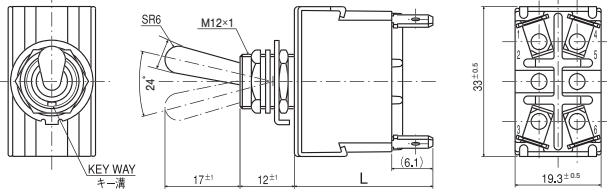
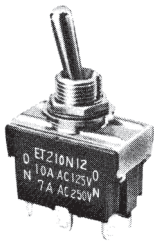
■印の形名確認は、品種一覧表をご参照ください。  
■: Refer to "Table of Part Numbers" for a full list of part numbers.

(ON)は、モーメンタリーです。  
(ON) : Momentary.

■には端子形状番号「なし」「10」「12」が入ります。  
■ shows the terminal style "(blank)", "10", or "12".

**ET210 (2極/2 poles)**

スイッチ特性「K」タイプは、2番、5番端子がありません。  
Terminal pins No.2 and No.5 are not available in switches with Switching Function "K".



端子番号はボックスに表示してあります。  
Terminal numbers are shown on the bottom of the switch.

**仕様/Specifications**

| 定格<br>Rating                     | 初期接触抵抗<br>Initial contact resistance | 耐電圧<br>Dielectric strength   | 絶縁抵抗<br>Insulation resistance | 電気的寿命<br>Electrical life |               |
|----------------------------------|--------------------------------------|------------------------------|-------------------------------|--------------------------|---------------|
| ET210K ■<br>ET210N ■<br>ET210P ■ | AC125 V 10 A<br>AC250 V 7 A          | 20 mΩ Max.<br>(DC2 V 100 mA) | AC1500 V<br>1分間/minute        | 100 MΩ Min.<br>(DC500 V) | 30,000 cycles |
| ET210PA12                        | AC125 V 10 A                         |                              |                               |                          | 20,000 cycles |

**L寸法/L dimensions**

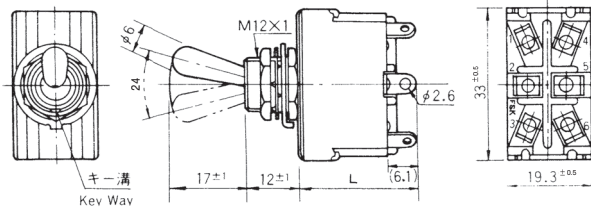
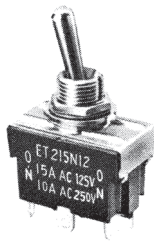
| 端子形状<br>Terminal style | タブ端子<br>TAB#250 | ねじ端子<br>Screw Terminal | はんだ端子<br>Solder Terminal |
|------------------------|-----------------|------------------------|--------------------------|
| 形名 Part No.            |                 |                        |                          |
| ET210K ■・N ■-Z         | 30.6±1          | 28.4±1                 | 27.6±1                   |
| ET210P ■-Z             | 30.6±1          | 28.4±1                 | 27.6±1                   |
| ET210PA12-Z            | -               | -                      | 27.6±1                   |

| スイッチ特性<br>Switching function | キー溝<br>Key way | キー溝<br>Key way | キー溝<br>Key way |
|------------------------------|----------------|----------------|----------------|
| 形名 Part No.                  |                |                |                |
| ET210K ■-Z                   | ON             | —              | OFF            |
| 接続端子<br>Connecting terminals | 1-3 4-6        | —              | —              |
| ET210N ■-Z                   | ON             | —              | ON             |
| ET210P ■-Z                   | ON             | OFF            | ON             |
| 接続端子<br>Connecting terminals | 2-3 5-6        | —              | 2-1 5-4        |
| ★ET210PA12-Z                 | ON             | ON             | OFF            |
| 接続端子<br>Connecting terminals | 2-3 5-6        | 5-6            | —              |

■印の形名確認は、品種一覧表をご参照ください。  
■ : Refer to "Table of Part Numbers" for a full list of part numbers of part numbers.

**ET215 (2極/2 poles)**

スイッチ特性「K」、「L」、「M」タイプは、2番、5番端子がありません。  
Terminal pins No.2 and No.5 are not available in switches with Switching Function "K", "L", or "M".



端子番号はボックスに表示してあります。  
Terminal numbers are shown on the bottom of the switch.

**仕様/Specifications**

| 定格<br>Rating                     | 初期接触抵抗<br>Initial contact resistance | 耐電圧<br>Dielectric strength   | 絶縁抵抗<br>Insulation resistance | 電気的寿命<br>Electrical life |                |
|----------------------------------|--------------------------------------|------------------------------|-------------------------------|--------------------------|----------------|
| ET215K ■<br>ET215N ■             | AC125 V 15 A<br>AC250 V 10 A         | 20 mΩ Max.<br>(DC2 V 100 mA) | AC1500 V<br>1分間/minute        | 100 MΩ Min.<br>(DC500 V) | 30,000 cycles  |
| ET215P ■<br>ET215M ■<br>ET215S ■ | AC125 V 15 A<br>AC250 V 10 A         |                              |                               |                          | 20,000回 cycles |

**L寸法/L dimensions**

| 端子形状<br>Terminal style | タブ端子<br>TAB#250 | ねじ端子<br>Screw Terminal | はんだ端子<br>Solder Terminal |
|------------------------|-----------------|------------------------|--------------------------|
| 形名 Part No.            |                 |                        |                          |
| ET215K ■・N ■-Z         | 30.6±1          | 28.4±1                 | 27.6±1                   |
| ET215P ■-Z             | 30.6±1          | 28.4±1                 | 27.6±1                   |
| ET215M-S ■-Z           | -               | 28.4±1                 | 27.6±1                   |

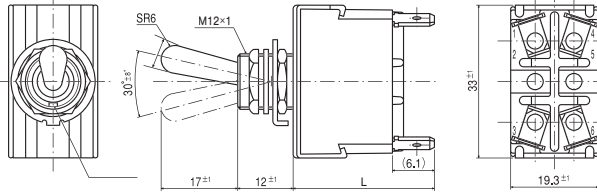
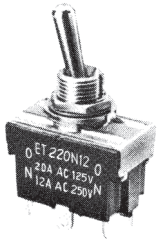
| スイッチ特性<br>Switching function | キー溝<br>Key way | キー溝<br>Key way | キー溝<br>Key way |
|------------------------------|----------------|----------------|----------------|
| 形名 Part No.                  |                |                |                |
| ET215K ■-Z                   | ON             | —              | OFF            |
| 接続端子<br>Connecting terminals | 1-3 4-6        | —              | —              |
| ET215M ■-Z                   | OFF            | —              | (ON)           |
| 接続端子<br>Connecting terminals | —              | —              | 1-3 4-6        |
| ET215N ■-Z                   | ON             | —              | ON             |
| ET215P ■-Z                   | ON             | OFF            | ON             |
| ET215S ■-Z                   | (ON)           | OFF            | (ON)           |
| 接続端子<br>Connecting terminals | 2-3 5-6        | —              | 2-1 5-4        |

■印の形名確認は、品種一覧表をご参照ください。  
■ : Refer to "Table of Part Numbers" for a full list of part numbers of part numbers.

(ON), (OFF)は、モーメンタリーです。 ■には端子形状番号「なし」「10」「12」が入ります。  
(ON) and (OFF) : Momentary. ■ shows the terminal style ("blank", "10", or "12").

**ET220 (2極/2 poles)**

スイッチ特性[K],[L],[M]タイプは、2番、5番端子がありません。  
Terminal pins No.2 and No.5 are not available in switches with  
Switching Function "K", "L", or "M".



端子番号はボックスに表示してあります。  
Terminal numbers are shown on the bottom of the switch.

**仕様/Specifications**

|               | 定格<br>Rating | 初期接触抵抗<br>Initial contact resistance | 耐電圧<br>Dielectric strength | 絶縁抵抗<br>Insulation resistance | 電気的寿命<br>Electrical life |
|---------------|--------------|--------------------------------------|----------------------------|-------------------------------|--------------------------|
| <b>ET220K</b> | AC125 V 20 A | 20 mΩ Max.                           | AC1500 V                   | 100 MΩ Min.                   | 20,000 cycles            |
| <b>ET220N</b> | AC250 V 12 A | (DC2 V 100 mA)                       | 1分間/minute                 | (DC500 V)                     |                          |

**L寸法/L dimensions**

| 端子形状<br>Terminal style              | タブ端子<br>TAB#250 | ねじ端子<br>Screw Terminal | はんだ端子<br>Solder Terminal |
|-------------------------------------|-----------------|------------------------|--------------------------|
| 形名 Part No.                         |                 |                        |                          |
| <b>ET220K</b> ・ <b>N</b> ・ <b>Z</b> | -               | -                      | 27.6 <sup>±1</sup>       |

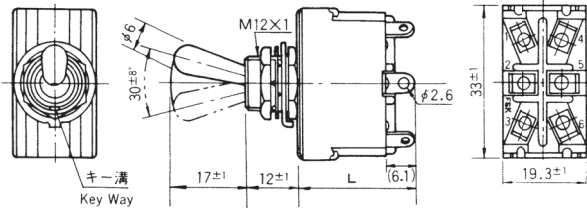
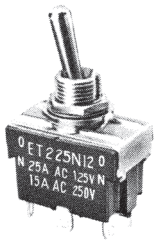
| スイッチ特性<br>Switching function | キー溝<br>Key way | キー溝<br>Key way | キー溝<br>Key way |
|------------------------------|----------------|----------------|----------------|
| 形名 Part No.                  |                |                |                |
| <b>ET220K</b> ・ <b>Z</b>     | ON             | -              | OFF            |
| 接続端子<br>Connecting terminals | 1-3 4-6        | -              | -              |
| <b>ET220N</b> ・ <b>Z</b>     | ON             | -              | ON             |
| 接続端子<br>Connecting terminals | 2-3 5-6        | -              | 2-1 5-4        |

■印の形名確認は、品種一覧表をご参照ください。

■ : Refer to "Table of Part Numbers" for a full list of part numbers.

**ET225 (2極/2 poles)**

スイッチ特性[K]タイプは、2番、5番端子がありません。  
Terminal pins No.2 and No.5 are not available in switches with  
Switching Function "K".



端子番号はボックスに表示してあります。  
Terminal numbers are shown on the bottom of the switch.

**仕様/Specifications**

|               | 定格<br>Rating | 初期接触抵抗<br>Initial contact resistance | 耐電圧<br>Dielectric strength | 絶縁抵抗<br>Insulation resistance | 電気的寿命<br>Electrical life |
|---------------|--------------|--------------------------------------|----------------------------|-------------------------------|--------------------------|
| <b>ET225K</b> | AC125 V 25 A | 20 mΩ Max.                           | AC1500 V                   | 100 MΩ Min.                   | 20,000 cycles            |
| <b>ET225N</b> | AC250 V 15 A | (DC2 V 100 mA)                       | 1分間/minute                 | (DC500 V)                     |                          |
| <b>ET225P</b> |              |                                      |                            |                               |                          |

**L寸法/L dimensions**

| 端子形状<br>Terminal style              | タブ端子<br>TAB#250    | ねじ端子<br>Screw Terminal | はんだ端子<br>Solder Terminal |
|-------------------------------------|--------------------|------------------------|--------------------------|
| 形名 Part No.                         |                    |                        |                          |
| <b>ET225K</b> ・ <b>N</b> ・ <b>Z</b> | 30.6 <sup>±1</sup> | 31.8 <sup>±1</sup>     | 27.6 <sup>±1</sup>       |
| <b>ET225P</b> ・ <b>Z</b>            |                    |                        |                          |

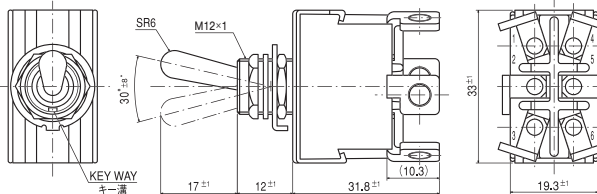
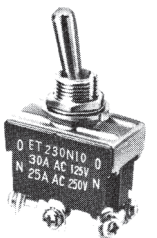
| スイッチ特性<br>Switching function | キー溝<br>Key way | キー溝<br>Key way | キー溝<br>Key way |
|------------------------------|----------------|----------------|----------------|
| 形名 Part No.                  |                |                |                |
| <b>ET225K</b> ・ <b>Z</b>     | ON             | -              | OFF            |
| 接続端子<br>Connecting terminals | 1-3 4-6        | -              | -              |
| <b>ET225N</b> ・ <b>Z</b>     | ON             | -              | ON             |
| <b>ET225P</b> ・ <b>Z</b>     | ON             | OFF            | ON             |
| 接続端子<br>Connecting terminals | 2-3 5-6        | -              | 2-1 5-4        |

■印の形名確認は、品種一覧表をご参照ください。

■ : Refer to "Table of Part Numbers" for a full list of part numbers.

**ET230 (2極/2 poles)**

スイッチ特性[K]タイプは、2番、5番端子がありません。  
Terminal pins No.2 and No.5 are not available in switches with  
Switching Function "K".



端子番号はボックスに表示してあります。  
Terminal numbers are shown on the bottom of the switch.

**仕様/Specifications**

|                 | 定格<br>Rating | 初期接触抵抗<br>Initial contact resistance | 耐電圧<br>Dielectric strength | 絶縁抵抗<br>Insulation resistance | 電気的寿命<br>Electrical life |
|-----------------|--------------|--------------------------------------|----------------------------|-------------------------------|--------------------------|
| <b>ET230N10</b> | AC250 V 25 A | 20 mΩ Max.                           | AC1500 V                   | 100 MΩ Min.                   | 20,000 cycles            |
| <b>ET230P10</b> | AC125 V 30 A | (DC2 V 100 mA)                       | 1分間/minute                 | (DC500 V)                     |                          |

| スイッチ特性<br>Switching function | キー溝<br>Key way | キー溝<br>Key way | キー溝<br>Key way |
|------------------------------|----------------|----------------|----------------|
| 形名 Part No.                  |                |                |                |
| ★ <b>ET230N</b> ・ <b>Z</b>   | ON             | -              | ON             |
| ★ <b>ET230P</b> ・ <b>Z</b>   | ON             | OFF            | ON             |
| 接続端子<br>Connecting terminals | 2-3 5-6        | -              | 2-1 5-4        |

■には端子形状番号「なし」「10」「12」が入ります。

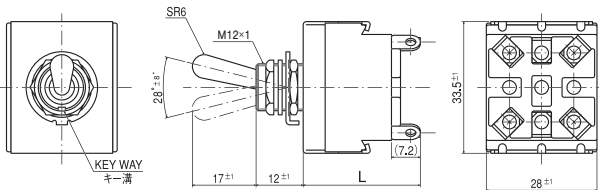
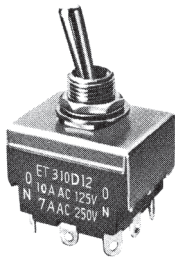
■ shows the terminal style "blank", "10", or "12".

★(黒星)は、受注生産品です。

★ : Made to order products.

**ET310 (3極/3 poles)**

スイッチ特性「A」タイプは、2番、5番、8番端子がありません。  
Terminal pins No.2, No.5, and No.8 are not available in switches with Switching Function "A".



端子番号はボックスに表示してあります。  
Terminal numbers are shown on the bottom of the switch.

**仕様/Specifications**

| 定格<br>Rating    | 初期接触抵抗<br>Initial contact resistance | 耐電圧<br>Dielectric strength   | 絶縁抵抗<br>Insulation resistance | 電気的寿命<br>Electrical life |               |
|-----------------|--------------------------------------|------------------------------|-------------------------------|--------------------------|---------------|
| <b>ET310A-Z</b> | AC125 V 10 A                         | 20 mΩ Max.<br>(DC2 V 100 mA) | AC1500 V                      | 100 MΩ Min.<br>(DC500 V) | 20,000 cycles |
| <b>ET310D-Z</b> | AC250 V 7 A                          |                              |                               |                          |               |
| <b>ET310E-Z</b> |                                      |                              |                               |                          |               |

**L寸法/L dimensions**

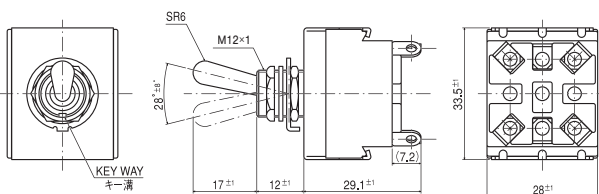
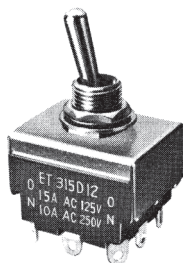
| 端子形状<br>Terminal style | タブ端子<br>TAB#250    | ねじ端子<br>Screw Terminal | はんだ端子<br>Solder Terminal |
|------------------------|--------------------|------------------------|--------------------------|
| 形名 Part No.            |                    |                        |                          |
| <b>ET310A-Z</b>        | 34 <sup>±2</sup>   | —                      | 29.1 <sup>±1</sup>       |
| <b>ET310D-Z</b>        | 36.4 <sup>±1</sup> | —                      | —                        |
| <b>ET310E-Z</b>        | —                  | —                      | —                        |

| スイッチ特性<br>Switching function | キー溝<br>Key way | キー溝<br>Key way | キー溝<br>Key way |
|------------------------------|----------------|----------------|----------------|
| 形名 Part No.                  |                |                |                |
| <b>ET310A-Z</b>              | ON             | —              | OFF            |
| 接続端子<br>Connecting terminals | 1-3 4-6<br>7-9 | —              | —              |
| <b>ET310D-Z</b>              | ON             | —              | ON             |
| <b>ET310E-Z</b>              | ON             | OFF            | ON             |
| 接続端子<br>Connecting terminals | 2-3 5-6<br>8-9 | —              | 2-1 5-4<br>8-7 |

■印の形名確認は、品種一覧表をご参照ください。  
■ : Refer to "Table of Part Numbers" for a full list of part numbers.

**ET315□12 (3極/3 poles)**

スイッチ特性「A」タイプは、2番、5番、8番端子がありません。  
Terminal pins No.2, No.5, and No.8 are not available in switches with Switching Function "A".



端子番号はボックスに表示してあります。  
Terminal numbers are shown on the bottom of the switch.

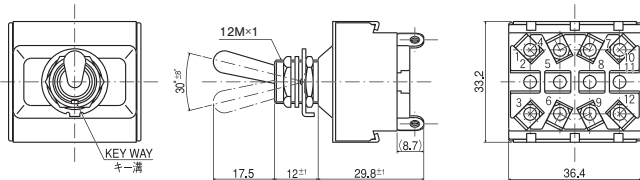
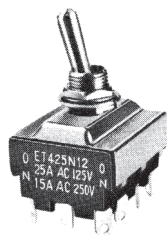
**仕様/Specifications**

| 定格<br>Rating    | 初期接触抵抗<br>Initial contact resistance | 耐電圧<br>Dielectric strength   | 絶縁抵抗<br>Insulation resistance | 電気的寿命<br>Electrical life |               |
|-----------------|--------------------------------------|------------------------------|-------------------------------|--------------------------|---------------|
| <b>ET315D12</b> | AC125 V 15 A                         | 20 mΩ Max.<br>(DC2 V 100 mA) | AC1500 V                      | 100 MΩ Min.<br>(DC500 V) | 20,000 cycles |
| <b>ET315E12</b> | AC250 V 10 A                         |                              |                               |                          |               |

| スイッチ特性<br>Switching function | キー溝<br>Key way | キー溝<br>Key way | キー溝<br>Key way |
|------------------------------|----------------|----------------|----------------|
| 形名 Part No.                  |                |                |                |
| ★ <b>ET315D12-Z</b>          | ON             | —              | ON             |
| ★ <b>ET315E12-Z</b>          | ON             | OFF            | ON             |
| 接続端子<br>Connecting terminals | 2-3 5-6<br>8-9 | —              | 2-1 5-4<br>8-7 |

**ET425□12 (4極/4 poles)**

スイッチ特性「K」タイプは、2番、5番、8番、11番端子がありません。  
Terminal pins No.2, No.5, No.8, and No.11 are not available in switches with Switching Function "K".



端子番号はボックスに表示してあります。  
Terminal numbers are shown on the bottom of the switch.

**仕様/Specifications**

| 定格<br>Rating    | 初期接触抵抗<br>Initial contact resistance | 耐電圧<br>Dielectric strength   | 絶縁抵抗<br>Insulation resistance | 電気的寿命<br>Electrical life |               |
|-----------------|--------------------------------------|------------------------------|-------------------------------|--------------------------|---------------|
| <b>ET425K12</b> | AC125 V 25 A                         | 20 mΩ Max.<br>(DC2 V 100 mA) | AC1500 V                      | 100 MΩ Min.<br>(DC500 V) | 20,000 cycles |
| <b>ET425N12</b> | AC250 V 15 A                         |                              |                               |                          |               |

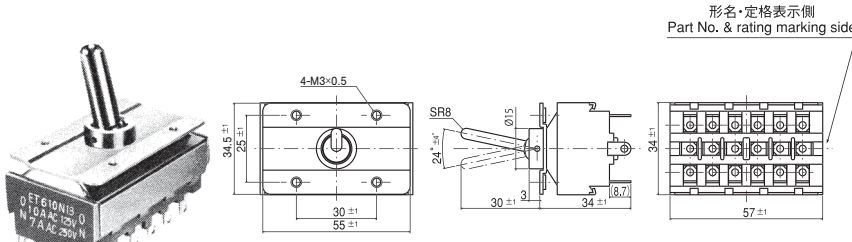
| スイッチ特性<br>Switching function | キー溝<br>Key way       | キー溝<br>Key way | キー溝<br>Key way       |
|------------------------------|----------------------|----------------|----------------------|
| 形名 Part No.                  |                      |                |                      |
| ★ <b>ET425K12-Z</b>          | ON                   | —              | OFF                  |
| 接続端子<br>Connecting terminals | 1-3 4-6<br>7-9 10-12 | —              | —                    |
| ★ <b>ET425N12-Z</b>          | ON                   | —              | ON                   |
| 接続端子<br>Connecting terminals | 2-3 5-6<br>8-9 11-12 | —              | 2-1 5-4<br>8-7 11-10 |

★(黒星)は、受注生産品です。  
★ : Made to order products.

■には端子形状番号「なし」「12」が入ります。  
■ shows the terminal style "(blank)" or "12".



ET610N13 (6極/6 poles)

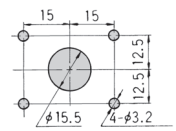


端子番号はボックスに表示してあります。  
Terminal numbers are shown on the bottom of the switch.

|                              |  |   |                                     |
|------------------------------|--|---|-------------------------------------|
| スイッチ特性<br>Switching function | 形名・定格表示側から見て<br>Viewed from part No. and rating marking side |   |                                     |
| 形名<br>Part No.               |  |   |                                     |
| ☆ET610N13-Z                  | ON   | — | ON                                  |
| 接続端子<br>Connecting terminals | 2-3 5-6<br>8-9 11-12<br>14-15 17-18                          | — | 2-1 5-4<br>8-7 11-10<br>14-13 17-16 |

■パネル抜孔図  
Panel Cut-Out Dimensions

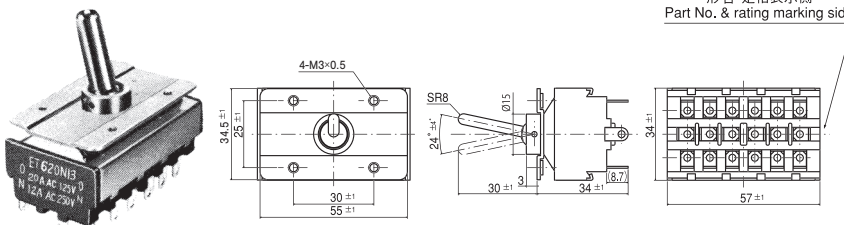
(プレート取付タイプ)  
(Plate mounting type)



■仕様/Specifications

| 定格<br>Rating                            | 初期接触抵抗<br>Initial contact resistance | 耐電圧<br>Dielectric strength | 絶縁抵抗<br>Insulation resistance | 電気的寿命<br>Electrical life |
|---|--------------------------------------|----------------------------|-------------------------------|--------------------------|
| ET610N13<br>AC125 V 10 A<br>AC250 V 7 A | 20 mΩ Max.<br>(DC2 V 100 mA)         | AC1500 V<br>1分間/minute     | 100 MΩ Min.<br>(DC500 V)      | 5,000 cycles             |

ET620N13 (6極/6 poles)

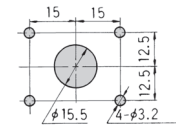


端子番号はボックスに表示してあります。  
Terminal numbers are shown on the bottom of the switch.

|                              |  |   |                                     |
|------------------------------|--|---|-------------------------------------|
| スイッチ特性<br>Switching function | 形名・定格表示側から見て<br>Viewed from part No. and rating marking side |   |                                     |
| 形名<br>Part No.               |  |   |                                     |
| ★ET620N13-Z                  | ON   | — | ON                                  |
| 接続端子<br>Connecting terminals | 2-3 5-6<br>8-9 11-12<br>14-15 17-18                          | — | 2-1 5-4<br>8-7 11-10<br>14-13 17-16 |

■パネル抜孔図  
Panel Cut-Out Dimensions

(プレート取付タイプ)  
(Plate mounting type)



■仕様/Specifications

| 定格<br>Rating                             | 初期接触抵抗<br>Initial contact resistance | 耐電圧<br>Dielectric strength | 絶縁抵抗<br>Insulation resistance | 電気的寿命<br>Electrical life |
|--|--------------------------------------|----------------------------|-------------------------------|--------------------------|
| ET620N13<br>AC125 V 20 A<br>AC250 V 12 A | 20 mΩ Max.<br>(DC2 V 100 mA)         | AC1500 V<br>1分間/minute     | 100 MΩ Min.<br>(DC500 V)      | 5,000 cycles             |

■品種一覧表およびUL・CSA規格認定品一覧表 / Table of Part Numbers

| 端子形状                      | 形名 Part No.  | ※1.  | 形名 Part No.   | ※1.  | 形名 Part No.  | ※1.  | 形名 Part No.  | ※1.   |
|---------------------------|--------------|------|---------------|------|--------------|------|--------------|-------|
| タブ端子<br>TAB terminals     | ★ ET110F-Z   |      | ★ ET115D-Z    |      | ☆ ET215P-Z   | 39.7 | ET225P-Z     |       |
|                           | ET115A-Z     | 29.4 | ★ ET215N-Z    | 40.0 | ☆ ET225K-Z   | 39.4 | —            | —     |
| ねじ端子<br>Screw terminals   | ☆ ET115A10-Z |      | ★ ET215K10-Z  |      | ★ ET230N10-Z | 54.4 | —            | —     |
|                           | ★ ET125A10-Z |      | ☆ ET215N10-Z  |      | ★ ET230P10-Z |      | —            | —     |
| はんだ端子<br>Solder terminals | ☆ ET105A12-Z |      | ★ ET115G12-Z  |      | ★ ET215M12-Z |      | ☆ ET310D12-Z | 54.6  |
|                           | ☆ ET105D12-Z | 25.8 | ★ ET115H12-Z  | 25.0 | ☆ ET215N12-Z | 38.1 | ☆ ET310E12-Z |       |
|                           | ☆ ET105E12-Z |      | ☆ ET120A12-Z  |      | ★ ET215P12-Z | 37.8 | ☆ ET310D12-Z | 54.6  |
|                           | ☆ ET110A12-Z | 25.8 | ☆ ET125A12-Z  | 25.9 | ET215S12-Z   | 38.4 | ★ ET315D12-Z | 54.7  |
|                           | ☆ ET110D12-Z |      | ★ ET125D12-Z  | 26.0 | ★ ET220K12-Z |      | ★ ET315E12-Z |       |
|                           | ★ ET110E12-Z |      | ☆ ET210K12-Z  |      | ★ ET220N12-Z |      | ★ ET425K12-Z |       |
|                           | ET115A12-Z   | 25.9 | ☆ ET210N12-Z  | 38.0 | ☆ ET225K12-Z | 38.1 | ★ ET425N12-Z |       |
|                           | ★ ET115C12-Z |      | ☆ ET210P12-Z  | 37.9 | ET225N12-Z   | 38.6 | ☆ ET610N13-Z | 105.0 |
|                           | ET115D12-Z   | 25.9 | ★ ET210PA12-Z |      | ET225P12-Z   |      | ★ ET620N13-Z |       |
|                           | ★ ET115E12-Z | 25.9 | ☆ ET215K12-Z  | 37.9 | ★ ET310A12-Z | 54.0 | —            | —     |

規格認定品であってもULマーク、CSAマーク付きでは在庫はしていませんので、ご注文に際しては「UL、CSAマーク付き」と指定下さい。

ULマーク、CSAマーク付きの価格は別料金が加算されます。

Even if the products are of UL-or CSA-approved ones, The products in stock do not carry the UL mark of the CSA mark. When placing an order, be sure to specify "With UL/CSA Mark." For the products with the UL mark or the CSA mark, extra costs will be added.

UL File No.E43275 CSA File No.LR38341

☆(白星)は、標準製品です。 ★(黒星)は、受注生産品です。  
☆: Semi-standard products. ★: Made to order products.

■標準付属部品 /Standard Accessories ———— 《添付部品 /Supplied with switch》

| 部品名<br>Part Name  | ロックナット<br>Hex Nut        | ロックナット<br>Hex Nut                 | ロックワッシャ<br>Lockwasher             | ロックリング<br>Locking Ring            |
|-------------------|--------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| 形名<br>Part No.    | 140008010235             | 140008010221                      | 140008030055                      | 140008020065                      |
| 寸法図<br>Dimensions |                          |                                   |                                   |                                   |
| 表面処理<br>Finish    | ニッケルメッキ<br>Nickel plated | 亜鉛メッキ<br>三価クロメート処理<br>Zinc plated | 亜鉛メッキ<br>三価クロメート処理<br>Zinc plated | 亜鉛メッキ<br>三価クロメート処理<br>Zinc plated |

■別売付属部品/Optional Accessories ———— 《添付部品/Supplied separately》

| 適用品種名/Type        | ET-8B        |              | ET  | ET           |               |
|-------------------|--------------|--------------|---|--------------|---------------|
| 部品名/Part Name     | 銘板/Plate     | 銘板/Plate     | 防水キャップ/Waterproof boot  | キャップ/Boot    | 段付ナット/Bushing |
| 形名/Part No.       | 140008040021 | 140008040025 | 赤 Red 140000610335<br>グレー Gray 140000610334<br>黒 Black 140000610333 | 140000610080 | 140008010244  |
| 寸法図<br>Dimensions |              |              |   |              |               |

■取扱注意事項/Handling Precautions

1. はんだ付け仕様/Soldering Specifications

(1) 手付け/Manual Soldering

装置 : はんだゴテ

Device : Soldering iron

420°C, Max.; 3 seconds, Max.

(2) 防水キャップについて

①スイッチへの取付は内蔵ナットによるネジ止めです。

②適用品種はプレート取付タイプ以外となります。

(2) Waterproof boot

①The boot is fixed to the switch with the built-in screw.

②The boot cannot be used for plate-mounting switches.

2. 洗浄仕様/Flux Cleaning

(1) 溶剤は、フッ素系またはアルコール系のものをご使用ください。

Solvent : Fluorine or Alcohol type.

(2) ETシリーズは、防水構造になっていないため、端子部を洗浄する場合は、スイッチ本体に洗浄液がかからないようブラシ洗浄して下さい。

The ET series are not washable. To wash the PC board, clean the soldering surface of the PC board with a brush so that the switch is not exposed to the cleaning solution.

■梱包仕様/Packaging Specification

