

Circuit Breakers for control panel(FAU/FHU series)

| Frame(A)  |  | Molded Case Circuit Breakers |                    |                          |                  | Earth Leakage Circuit Breakers(Harmonic Surge Ready) |                         |                         |                         |                       |   |
|---|--|------------------------------|--------------------|--------------------------|------------------|--|-------------------------|-------------------------|-------------------------|-----------------------|---|
|   |  | 30                           | 50                 | 50                       | 100              | 30   | 50                      | 50                      | 100                     |                       |   |
| Model   |  | NF30-FAU                     | NF50-FAU           | NF50-FHU                 | NF100-FHU        | NV30-FAU   | NV50-FAU                | NV50-FHU                | NV100-FHU               |                       |   |
| Image   |  |                              |                    |                          |                  |  |                         |                         |                         |                       |   |
| Phase line(*1)  |  | -                            | -                  | -                        | -                | 1φ2W   | 3φ3W<br>1φ2W            | 1φ2W                    | 3φ3W<br>1φ2W<br>1φ3W    | 3φ3W<br>1φ2W<br>1φ3W  |   |
| Number of poles                                       |  | 2   3                        | 2   3              | 2   3                    | 3                | 2   3  | 2   3                   | 2   3                   | 3                       |                       |   |
| Rated current In(A)<br>Rated ambient temperature 40°C |  | 5 10 15 20                   | 5 10 15 20         | 3 5 10 15<br>20 30 40 50 | 60 75 100        | 5 10 15 20   | 5 10 15 20              | 5 10 15 20<br>30 40 50  | 60 75 100               |                       |   |
| For motor protection<br>Rated current(*13)            |  | 30                           | 30 40 50           | 2.4<br>6.3 8<br>16       | -                | 30   | 30 40 50                | -                       | 60 75 100               |                       |   |
| High-speed type                                       | Rated current sensitivity IΔn mA           | -                            | -                  | -                        | -                | 30   | 30                      | 30 50 100               | 30 50 100               |                       |   |
|   | Pickup current, UL 1053                    | -                            | -                  | -                        | -                | 75% of IΔn   | 75% of IΔn              | 75% of IΔn              | 75% of IΔn              |                       |   |
|   | Max. operating time(s) at 5IΔn(*2)         | -                            | -                  | -                        | -                | 0.04   | 0.04                    | 0.04                    | 0.04                    |                       |   |
| Earth leakage indication system                       |  | -                            | -                  | -                        | -                | Mechanical type(button)                              | Mechanical type(button) | Mechanical type(button) | Mechanical type(button) |                       |   |
| Rated short-circuit Breaking Capacities(kA)           | UL1077<br>CSA C22.2<br>No.235              | Rated voltage                | AC(V)              | 240                      | 240              | 240  | 240                     | 240                     | 240                     | 240                   |   |
|   |  | DC(V)                        | 60                 | 60                       | -                | -  | -                       | -                       | -                       | -                     |   |
|   |  | AC                           | 240V               | 2.5(*3)                  | 2.5(*3)          | 5  | 5                       | 2.5(*3)                 | 2.5(*3)                 | 5                     | 5 |
|   |  | DC                           | 60V                | 1.5                      | 1.5              | -  | -                       | -                       | -                       | -                     | - |
|   | IEC 60947-2<br>EN 60947-2<br>(Icu/Ics)     | Rated insulation voltage(V)  | 250                | 250                      | 500              | 500  | AC230V(rated voltage)   | AC230V(rated voltage)   | AC240V(rated voltage)   | AC240V(rated voltage) |   |
|   |  | AC                           | 400V               | -                        | -                | 1.5/1  | -                       | -                       | -                       | -                     |   |
|   |  | 230V                         | 2.5/1(*4)          | 2.5/1(*4)                | 5/2              | 5/2  | -                       | -                       | 5/2                     | 5/2                   |   |
|   |  | DC                           | 60V                | 1.5/1                    | 1.5/1            | -  | -                       | -                       | -                       | -                     |   |
|   | GB 14048.2<br>(Icu/Ics)                    | Rated insulation voltage(V)  | 250                | 250                      | 500              | 500  | AC230V(rated voltage)   | AC230V(rated voltage)   | AC240V(rated voltage)   | AC240V(rated voltage) |   |
|   |  | AC                           | 415V               | -                        | -                | 1.5/1  | -                       | -                       | -                       | -                     |   |
|   |  | 240V                         | -                  | -                        | 5/2              | 5/2  | -                       | -                       | 5/2                     | 5/2                   |   |
|   |  | 230V                         | 2.5/1(*4)          | 2.5/1(*4)                | -                | -  | 2.5/1(*4)               | 2.5/1(*4)               | -                       | -                     |   |
|   | Jis C 8201-2-1<br>Ann.1 Ann.2<br>(Icu/Ics) | Rated insulation voltage(V)  | 250                | 250                      | 500              | 500  | -                       | -                       | -                       | -                     |   |
|   |  | AC                           | 415V               | -                        | -                | 1.5/1  | -                       | -                       | -                       | -                     |   |
|   |  | 200V                         | 2.5/1(*4)          | 2.5/1(*4)                | 5/2              | 5/2  | -                       | -                       | -                       | -                     |   |
| DC  |  | 65V                          | 1.5/1              | 1.5/1                    | -                | -  | -                       | -                       | -                       |                       |   |
| Jis C 8201-2-2<br>Ann.1 Ann.2<br>(Icu/Ics)            | Rated voltageAC(V)                         | -                            | -                  | -                        | -                | 100-200  | 100-200                 | 100-200                 | 100-200                 |                       |   |
|   | AC   | 200V                         | -                  | -                        | -                | 2.5/1(*4)  | 2.5/1(*4)               | 5/2                     | 5/2                     |                       |   |
|   | 100V                                       | -                            | -                  | -                        | -                | 2.5/1(*4)  | 2.5/1(*4)               | 5/2                     | 5/2                     |                       |   |
| Rated impulse withstand voltage Uimp(kV)              |  | 2.5                          | 2.5                | 4                        | 4                | 2.5  | 2.5                     | 4                       | 4                       |                       |   |
| Current   |  | AC/DC compatible             | AC/DC compatible   | AC                       | AC               | AC   | AC                      | AC                      | AC                      |                       |   |
| Suitability for isolation                             |  | -                            | -                  | -                        | -                | -  | -                       | -                       | -                       |                       |   |
| Reverse connection                                    |  | -                            | -                  | -                        | -                | -  | -                       | -                       | -                       |                       |   |
| Overall dimensions(mm)                                |  | a                            | 40   60            | 40   60                  | 50   75          | 75   | 40   60                 | 40   60                 | 50   75                 | 75                    |   |
|   |  | b                            | 72                 | 72                       | 96               | 97.5   | 72                      | 72                      | 96                      | 97.5                  |   |
|   |  | c                            | 57                 | 57                       | 60               | 60   | 57                      | 57                      | 60                      | 60                    |   |
|   |  | ca                           | 73.5               | 73.5                     | 76               | 76   | 73.5                    | 73.5                    | 76                      | 76                    |   |
|   |  | Mass kg                      | 0.14   0.12        | 0.16   0.22              | 0.25   0.37      | 0.51   | 0.16   0.22             | 0.18   0.24             | 0.3   0.43              | 0.57                  |   |
| Installation  | IEC 35mm rail                              | ●                            | ●                  | ●                        | ●                | ●  | ●                       | ●                       | ●                       |                       |   |
| Connection  | Front connection                           | Screw terminal               | Screw terminal     | Screw terminal           | Screw terminal   | Screw terminal                                       | Screw terminal          | Screw terminal          | Screw terminal          |                       |   |
| Optional accessories                                  | Alarm switch(AL)                           | ●                            | ●                  | ●(*5)                    | ●(*6)            | ●  | ●                       | ●(*5)                   | ●(*6)                   |                       |   |
|   | Auxiliary switch(AX)                       | ●                            | ●                  | ●(*5)                    | ●(*6)            | ●  | ●                       | ●(*5)                   | ●(*6)                   |                       |   |
|   | Shunt trip(SHT)                            | ●                            | ●                  | ●(*5)                    | ●(*6)            | -  | -                       | -                       | -                       |                       |   |
|   | Test lead wire(TBL)                        | -                            | -                  | -                        | -                | -  | -                       | -                       | -                       |                       |   |
|   | With lead-wire terminal block(SLT)         | ●                            | ●                  | ●                        | ●                | ●  | ●                       | ●                       | ●                       |                       |   |
| External accessories                                  | Handle lock device                         | (LC)                         | ●(*7)              | ●(*7)                    | ●(*8)            | ●(*8)  | ●(*7)                   | ●(*7)                   | ●(*8)                   | ●(*8)                 |   |
|   |  | (HL)                         | ●(*7)              | ●(*7)                    | ●(*8)            | ●(*8)  | ●(*7)                   | ●(*7)                   | ●(*8)                   | ●(*8)                 |   |
|   | Small terminal cover                       | (TC-S)                       | ●                  | ●                        | ●                | ●  | ●                       | ●                       | ●                       | ●                     |   |
|   | Large terminal cover                       | (TC-L)                       | -                  | -                        | ●(*8)            | ●(*8)  | -                       | -                       | ●(*8)                   | ●(*8)                 |   |
| Front plate connection terminal cover                 | (RTC)                                      | ●                            | ●                  | -                        | -                | ●  | ●                       | -                       | -                       |                       |   |
| CE marking  | TUV approval                               | TUV approval                 | TUV approval       | TUV approval             | TUV approval     | TUV approval   | TUV approval            | TUV approval            | TUV approval            |                       |   |
| CCC recognition                                       | Recognized                                 | Recognized                   | Recognized         | Recognized               | Recognized       | Recognized   | Recognized              | Recognized              | Recognized              |                       |   |
| Automatic tripping device                             | Thermal-magnetic                           | Thermal-magnetic             | Hydraulic magnetic | Hydraulic magnetic       | Thermal-magnetic | Thermal-magnetic                                     | Hydraulic magnetic      | Hydraulic magnetic      | Hydraulic magnetic      |                       |   |
| Trip button   | -(*9)                                      | -(*9)                        | -(*9)              | -(*9)                    | -                | -  | -                       | -                       | -                       |                       |   |

Notes: \*1 If using a 3-pole earth leakage circuit breaker as a 1-pole 2-phase device, connect the left and right poles and not the central pole. When wiring to single-phase 3-wire, connect the neutral line to the central pole.  
 \*2 0.1 for UL1053  
 \*3 Rated short-circuit breaking capacity of product which is 5A of rated current is 1.5kA.  
 \*4 Rated short-circuit breaking capacity of product which is 5A of rated current is 1.5/1kA.  
 \*5 Standard type is SLT equipped.  
 \*6 Lead wires come from load side of the breaker as standard. Lead wires come from lateral side of the breaker is also available as an option.

\*7 UL(cURus) is certified. CCC·TUV is not certified.  
 \*8 UL(cURus)·CCC·TUV is not certified.  
 \*9 only alarm switch(excluding NF30-FAU,NF50-FAU SHT+AL)  
 \*10 Rated current sensitivity 30mA/50mA is available for motor protection rated current

Remarks: (1) breaking capacity of indicate to breaker.

| Rated voltage | Applicable circuit voltage | Applicable voltage range |
|---------------|----------------------------|--------------------------|
| 100-200V      | 100·110·200·220V           | 80~242V                  |
| 240V(UL)      | 240V                       | 132~264V                 |
| 240V(GB)      | 240V                       | 204~264V                 |