WATSN Autómatic Transfer Switch Catalogue 2021



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## Automatic Transfer Switch

## Class PC

- Transfer switch equipment based on mechanical switching devices, that do not need electrical power to hold the main contacts open or closed and capable of making, carrying, and breaking currents under normal circuit conditions including operating overload conditions, and making and withstanding short-circuit currents.

Extract from IEC60947-6-1
WATSN automatic transfer switch is specially designed in accordance with the standard requirements for power transfer. It does not provide protection but has a great withstanding and connectivity capacity. In other words, it can guarantee the safety of switch itself, and will not be damaged due to failure such as overload or short circuit, thus keeping a reliable connectivity of circuits.



$\star$Green Premium

## WATSN series Class PC

Automatic Transfer Switch $>$

- Compact, artful, outstanding, high-class, comprehensive, inclusive, flexible, customized
- Energy efficient, stable, and safe
- Fully equipped with the TIDE 2.0 intelligent control system


## Excellent performance



## Cempact

Reduced size and footprint

- The product size is fully optimized and upgraded, which is more compact than equivalent products
- The width of a power distribution cabinet can be as small as 400 mm to minimize space, resources, and costs
- The controller has a new architecture and compact design, saving up to $30 \%$ for overall dimensions and floor space



## Artful

## Gathering of unique craft and ingenuity

- Solenoid drive and integrated ATS with three positions realizes fast transfer in 100 ms
- Electromagnet comes with overheating self-protection mechanism and easily copes with severe temperature challenges
- With an exquisite handle structure, manual/automatic interlock design, and standard off isolation padlock, it realizes safe and reliable maintenance
- Core switch components support self-inspection and active operation and maintenance avoids off time



## ${ }^{2}$ Outstanding

## Excellent performance comes from lots of tests and practices

- Category AC-33B meaning ATSE can make or break current 10 times higher than nominal current.
- Meet the requirements for switchgear category E/F according to IEC 60947-6-1; the EMC level is E2, and it can withstand a harsh environment
- The controller uses a 32-bit intelligent processor, which greatly improves the computing power and real-time sampling performance
- Over-current protection coordination with upstream protection (circuit-breaker as example)



## 』 High-class

## Quality-oriented, safety first

- Powerful and automated lean production lines achieve energy efficient, which is safe and stable
- The incoming quality control (IQC) process includes automatic compression and high-class products come from intelligent manufacturing
- Final quality control (FQC) process provides an improved capability of quality inspection and control, where craftsmanship spirit ensures consistent high quality


## Excellent performance



## Comprehensive

## Wisdom comes from a collection of cutting-edge technologies while intelligence leads to a great success

- All types of controllers support the Modbus communication protocol and a connected loT era starts from now



## nus Flexible

## Scalable features that support both assembly and expansion

- Flexible support for function expansion, customized on demand, and easy to extend
- Add-on modules have a unified appearance and the standardization is only to make changes easier
- Modules are ordered separately, easy to plug and play on site, functional in real time, and easily respond to new needs


## \& Inclusive

## Easy to meet different needs

- Simple and comprehensive control types: automatic, manual, remote control, to meet various control needs
- Compliant with CB \& CE certifications and RoHS \& REACH requirements, as well as international standards, which is environmental friendly and efficient
- The DIN rail or base plate plate installation methods
- The integrated Type A controller featuring a design, supporting installation of cabinet doors, with operating status clear at a glance



## $\longleftarrow$ Customized

Care and implement everything that you need

- Fully equipped with the TIDE 2.0 intelligent control system and the architecture design is unified for all control systems
- All power failure, switch failure status, event log, query and analysis are clear at a glance
- T-Helper, an operation and maintenance assistant, is an added feature and enables a new operation and maintenance experience

Class PC transfer switch

## General features



## Codes and standard

- IEC 60947-1
- IEC 60947-6-1
- GB 14048.1
- GB/T 14048.11

General rules
Transfer switching equipment
General rules
Transfer switching equipment

## Codes and certifications and declarations

- CCC certification
- CE certification
- CB certification
- RoHS 2.0 certification
- REACH declarations


## Operating conditions

- WATSN series Class PC transfer switch can operate in an ambient temperature of $-25^{\circ} \mathrm{C} \sim+70^{\circ} \mathrm{C}$
- The altitude of the installation site shall not exceed 2000 m
- When the highest temperature is $+55^{\circ} \mathrm{C}$, the relative humidity in air shall not exceed 95\%
- Storage temperature: $-35^{\circ} \mathrm{C} \sim+85^{\circ} \mathrm{C}$

Electromagnetic compatibility (EMC)
WATSN series Class PC automatic transfer switch can withstand:

- Electrostatic discharge
Level 3
- Radiation immunity in a RF electromagnetic field Level 3
- Electrical fast transient burst Level 3
- Power surge Level 3
- Conducted immunity in a RF electromagnetic field Level 3
- Radiation level Level B


## Pollution degree

WATSN series Class PC transfer switch can operate in an environment with the pollution degree 3

## Switch Class

Based on the definitions specified in the transfer switch standard, WATSN includes the Class PC

## Ordering Information



## Catalogue Number

| WATSN | 63 | 4 | A | V |
| :---: | :---: | :---: | :---: | :---: |
| Schneider Wingoal | Rated operating current | Number of poles | Control types | Additional feature |
| WATSN series transfer switch |  | 2 | A | V - over-voltage and under-voltage |
|  |  | 3 | R |  |
|  |  | 4 |  |  |

Notes: 1. Rated operating current (A): 63,160b, 250, 630
2. Number of poles: 2-2 poles (up to 250 A), 3-3 poles, 4-4 poles
3. Control types: Type A - basic controller (16-630 A), Type R - remote control
4. Additional option: V - over-voltage and under-voltage, which can implement the transfer function between over-voltage and under-voltage and can adjust the transfer threshold through a specialized device. It's only optional for Type A controller

## > Add-on module

## $X$ - Fire linkage module

- 5 fire signaling modules available and one of them can be chosen: $\mathrm{X} 1-\mathrm{DC} 24 \mathrm{~V}$ constant voltage fire module; X2 - DC24V pulse fire module; X3-AC220V constant voltage fire module; X4 - AC220V pulse fire module; X5 - passive fire module


## G - Generator starting/cool down module

- Provide normally closed/open contacts. After the main power supply fails, the contact status changes to start the generator, and the generator is closed after the main power supply restores
- Passive switch signals output, the terminal capacity is DC30V 2A


## T-Communication module

- It is equipped with a RS485 interface and supports the Modbus communication protocol
- It can be connected to the on-site operation and maintenance assistant T-Helper, which provides more on-site setting options
- Applicable to power monitoring system, it can implement signaling, measurement, and adjustment remotely with the monitoring host


## GT - Generator starting/cool down + Communication module

- It supports generator starting/cool down and communication functions at the same time and the generator starting terminal supports a capacity of DC30V 2A

RC2 - Remote transfer-to-standby module

- Provide passive input terminals that can remotely control the switch and transfer it to the closed position of standby power supply


## > F - Auxiliary contact OF-contact module (optional for 100/160 frame)

- It provides normally closed/open contacts. When the switch is in different positions, it provides passive switch signal output indications
- The product with 100/160 frame provides optional F position feedback module and the product with 250/630 frame equipped with position feedback function by default


## Notes:

1. The add-on functions and modules on an Type A controller can be combined at random, but only select the same function once for a controller.
2. On an Type A controller, the number of combined add-on modules $X, G, T, G T, R C 2$ shall not exceed two at the same time

Class PC transfer switch

## Functions and characteristics



| Frame |  |  |
| :---: | :---: | :---: |
| Rated operating current (A) | le | AC-33B |
| Number of poles |  |  |
| Operating positions |  |  |
| Control types |  |  |
| Electrical features determined by GB/T 14048.11 (IEC 60947-6-1) |  |  |
| Rated insulation voltage (V) | Ui |  |
| Rated impulse withstand voltage (V) | Uimp |  |
| Rated operating voltage (V) | Ue | AC50/60Hz |
| Rated operating frequency (Hz) | $f$ |  |
| Rated short-time withstand current (kA/60ms) | Icw |  |
| Rated short-circuit making capacity (kA) | Icm |  |
| Peak Current (kA) | Ipeak |  |
| Mechanical durability |  |  |
| Electrical durability |  |  |
| Installation and connection |  |  |
| Installation method |  |  |
| Wiring method |  |  |
| Auxiliary device |  |  |
| Off padlock |  |  |
| Position feedback |  |  |
| Terminal cover |  |  |
| Rail buckle |  |  |
| Terminal insulation cover |  |  |
| Interphase insulating screen |  |  |
| Notes: ■ Standard $\quad$ Optional <br> (1) default $230 \mathrm{~V} / 400 \mathrm{~V}$ |  |  |

Functions and characteristics

| 100 | 160 | 250 | 630 |
| :---: | :---: | :---: | :---: |
| 63 | 160 | 250 | 630 |
| 2, 3, 4 | 2, 3, 4 | 2, 3, 4 | 3, 4 |
| 3 | 3 | 3 | 3 |
| A, R | A, R | A, R | A, R |
| 690 | 800 | 800 | 800 |
| 6000 | 8000 | 8000 | 8000 |
| 2P: 220-240V/3P, 4P: 380-415V | 2P: 220-240V/3P, 4P: 380-415V | 2P: 220-240V/3P, 4P: 380-415V | $380-415 \mathrm{~V}^{(1)}$ |
| 50/60 | 50/60 | 50/60 | 50/60 |
| 5 | 10 | 10 | 12.6 |
| 7.65 | 17 | 17.24 | 25.55 |
| 16.24 | 20.84 | 20.04 | 33.91 |
| 8000 | 10000 | 10000 | 10000 |
| 6000 | 6000 | 6000 | 6000 |
| Rail/base plate | Rail/base plate | Base plate | Base plate |
| Cable | Flat-facing bars | Flat-facing bars | Flat-facing bars |
| - | - | - | - |
| $\square$ | $\square$ | $\square$ | - |
| $\square$ | $\square$ | - | - |
| $\square$ | $\square$ | - | - |
| - | $\square$ | - | - |
| - | - | $\square$ | $\square$ |

Class PC transfer switch

## Controller function



Type A controller

| Controller Type | Type A |
| :---: | :---: |
| Installation method | Integrated |
| Automatic transfer |  |
| No voltage or loss of phase for power supply I | - |
| No voltage or loss of phase for power supply II | - |
| Power supply I under-voltage | - |
| Power supply II under-voltage | - |
| Power supply I over-voltage | - |
| Power supply II over-voltage | $\square$ |
| Self-return | - |
| Non-return | $\square$ |
| Manual return | - |
| Control operation |  |
| Remote control transfers to power supply I | - |
| Remote control transfers to power supply II | $\square^{(2)}$ |
| Remote control transfers to OFF position | - |
| Fire signal transfers to OFF position | $\square^{(2)}$ |
| Transfer function test | - |
| Signal output |  |
| Generator starting/cool down signal | $\square^{(2)}$ |
| Display |  |
| Power status | LED |
| Switch/contact status | LED |
| Event log | $\square^{(1)}$ |
| Setting |  |
| Transfer delay | $\square$ |
| Retransfer delay | - |
| Transient delay | $\square^{(1)}$ |
| Under-voltage threshold setting | $\square^{(1)}$ |
| Over-voltage threshold setting | $\square^{(1)}$ |
| Communication parameter settings | $\square^{(1)}$ |
| Fire linkage function |  |
| DC24V constant voltage | $\square^{(2)}$ |
| DC24V pulse | $\square^{(2)}$ |
| AC220V constant voltage | $\square^{(2)}$ |
| AC220V pulse | $\square^{(2)}$ |
| Passive fire signal | $\square^{(2)}$ |
| Other functions |  |
| Communication function | $\square^{(2)}$ |

Notes: $■$ Standard configuration $\quad$ Optional configuration or service
(1) Adjust the settings by using T-Helper, the O\&M assistant. If necessary, please consult our company and complete the settings under the guidance of professional technicians or the support of specialized devices
(2) Implement it by the function expansion module

> Paramer


## $>$ Test function

- After the product is powered on, you can use the test function to detect whether the product can be transferred normally. When performing test function, it is necessary to place the switch in the automatic operating mode and transfer the power supply I to the closed position under the premise that the power supply is normal.
(1) When you press the Test keypad under the premise that the powersupply II is normal, the switch will complete an I-O-II-O-I operation cycle.
(2) When you press the Test keypad in case that the power supply II is abnormal, the controller will send a generator starting signal (if equipped with aGenerator starting/closing module). If the power supply II restores to normal within 60s, the switch will complete an I-O-II-O-I operation cycle. If the power supply II fails to restore to normal within 60s, the switch will not perform any transfer action and controller quit function test process.
- When the product fails and an audible and visual alarm is triggered, press theTest keypad for muting.


## > Reset function

- Reset keypad: The controller will reset and repeat the process when you press the Reset keypad. After trouble shooting, press the Reset keypad to start a new round of signal detection and judgment.
> Indicator status

| Indicators | Status | Meaning |
| :---: | :---: | :---: |
| Power supply I status indicator | On Blinking Off | Power supply I is normal <br> Power supply I fails <br> Power supply I is not powered on |
| Power supply II status indicator | On Blinking Off | Power supply II is normal <br> Power supply II fails <br> Power supply II is not powered on |
| Power supply I closure indicator | On <br> Off | Power supply I closed <br> Power supply I open |
| Power supply II closure indicator | On <br> Off | Power supply II closed <br> Power supply II open |
| Alarm indicator | Blinking Off | Failure alarm status <br> Normal operating status |
| Run indicator | On Off | Normal automatic operating status <br> Normal manual operating status |

## Type A controller

## > Add-on



An add-on module


T-Helper

| (1) X - Fire modules |  |
| :--- | :--- |
| X1 | DC24V constant voltage fire module |
| X 2 | DC24V pulse fire module |
| X 3 | AC220V constant voltage fire module |
| X 4 | AC220V pulse fire module |
| X 5 | Passive fire module |

(2) T-Communication module
(3) G-Generator starting/cool down module
(4) GT - Generator starting/cool down +
communication module
(5) RC2 - Remote transfer-to-standby module

- The Type A controller can be equipped with a variety of add-on function modules that can be combined flexibly and support plugging and playing on site
- When the Type A controller expands its functions, different functions can be combined at random and you can only select the same function once for a controller. The number of any combined modules cannot exceed two


## Over-voltage and under-voltage function

- When you select a product with the function to monitor and detect over-voltage and under-voltage, you can adjust the over-voltage and under-voltage thresholds to transfer based on your site requirements. For the range of over-voltage and under-voltage thresholds, see the table below

| Parameter | Number of poles | Adjustable range | Factory default | Unit |
| :---: | :---: | :---: | :---: | :---: |
| S1 under-voltage <br> threshold | 2P, 4P Phase-Neutral | $160-190$ | 180 | V |
|  | 3P Phase -Phase | $280-360$ | 310 | V |
| S2 under-voltage <br> threshold | 2P, 4P Phase-Neutral | $160-190$ | 180 | V |
|  | 3P Phase -Phase | $280-360$ | 310 | V |
| S over-voltage <br> threshold | 2P, 4P Phase-Neutral | $240-280$ | 260 | V |
|  | 3P Phase -Phase | $420-480$ | 460 | V |
| S2 over-voltage | 2P, 4P Phase-Neutral | $240-280$ | 260 | V |
| threshold | 3P Phase -Phase | $420-480$ | 460 | V |

> T-Helper

- T-Helper is an operation and maintenance assistant that can be connected to the Type A controller through the communication module T. It can implement more adjustable options on site and read more operating information, which facilitates operation and maintenance in the future
- If you want to implement more functions such as configuration or read by using T-Helper, please consult our company and complete the settings under the guidance of professional technicians and the support of specialized devices

T-Helper function overview

| Operation | Function | Parameter |
| :---: | :---: | :---: |
| Setting | Communication parameters | Address |
|  |  | Baud rate |
|  |  | Check bit |
|  |  | Stop bit |
|  | Threshold setting | S1 under-voltage |
|  |  | S1 over-voltage |
|  |  | S2 under-voltage |
|  |  | S2 over-voltage |
|  | Delay setting | Transient delay |
|  | Voltage calibration | $230 \mathrm{~V} / 400 \mathrm{~V}$ |
|  | Factory setting | Restore to factory setting |
| Read | Status information | Switch status |
|  |  | Power status |
|  |  | Running status |
|  |  | Number of transfers |
|  | Product information | Manufacturing No. |

## Remote Transfer Switching Equipment



Frame 250A
No display or controller, simply transfer switch with a remote transfer function module.

## > Overview:

What is a Remote Transfer Switching Equipment (RTSE)?
According to IEC 60947-6-1, RTSE is remotely operated transfer switching equipment. It is the most commonly used system for transfer loads without direct human intervention. Transfer process is conducted electrically.
in some occasions, customers want to use a third-party system to control the TSE from distance (such as control room), or users want to use an intelligent system to operate the TSE, which requires remote control functions.

WATSN provides RTSE by utilizing a transfer switch and a standard remote transfer function module which is installed on type R controller.
To trigger transfer, an Impulse signal larger than 100ms is needed. No need of driving power from Main Circuit or other external power.
Utilizing the function module, TSE can be remote to either normal position, alternate position or OFF position.

## > Electrical Wiring

Wiring diagrams of function expansion modules for WATSN RTSE


Notes: only one of R1, R2, R3 can be connected to R0 at the same time.
Remote control terminal
Terminal function: External control input terminal
Terminal signal type: passive input terminaIR0, R1 terminal closed, switch remote to SI.
R0, R2 terminal closed, switch remote to SII.
R0, R3 terminal closed, switch remote to OFF position.

Impluse Logic

| $\geq 100 \mathrm{~ms}$ |  |  |  |  |  |  |  | $\geq 100 \mathrm{~ms}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Command I |  |  |  |  |  |  |  |  |
| Command O |  |  |  |  |  |  |  |  |
| Command II |  |  |  |  |  |  |  |  |
| Position I |  |  |  |  |  |  |  |  |
| Position O |  |  |  |  |  |  |  |  |
| Position II |  |  |  |  |  |  |  |  |

## Mechanical and electrical accessories



Terminal Shield

## OF-contact module

- Provide the open and closed status indication for switches on both source I and source II. It can be ordered separately, flexibly plugged and unplugged, and function immediately
- Each group of contacts can indicate the status of switches on both side respectively; the product with 100/160 frame is optional (up to 2 sets), and the 250/630/1250 frame product is standard (1 set)


## Terminal Shield

- Provide terminal protection on the cable incoming and output, making the wiring safer
- This accessory is optional for $100 / 160$ frame product


## Rail buckle

- It can be used to snap in and fix your product between the DIN 35 mm guide rails when the guide rail is used for installation
- This accessory is optional for $100 / 160$ frame product

interphase barrier


## Interphase barrier

- Provide protection for the cable incoming and output, effectively avoiding short circuits between phases
- This accessory is optional for 100/160 frame product


## Circuit-breaker / Transfer Switch Equipment coordination

## Complementary

| technical informations Ue <=415 VAC |  |  | Upstream <br> Downstream |  | EasyPacT CVS WATSN |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |
| Load side : |  | TSE | WATSN |  |  |  |
|  |  | Rating | 100 | 160 | 250 | 630 |
|  |  | Ith (A) $40^{\circ} \mathrm{C}$ | 100 | 160 | 250 | 630 |
|  |  | Icw (kA) | 5 | 10 | 10 | 12 |
|  |  | Icm (kAp) | 7.65 | 17 | 17 | 25 |
| Supply side | Icu (kA) |  |  |  |  |  |
| Circuit breaker: | 415 V | Ir | TSE conditionnal short-circuit current and related making capacity: |  |  |  |
| CVS100B | 25 |  | 5 | T | T | T |
| CVS160B | 25 |  |  | T | T | T |
| CVS250B | 25 |  |  |  | T | T |
| CVS100F | 36 |  | 5 | 25 | 25 | T |
| CVS160F | 36 |  |  | 25 | 25 | T |
| CVS250F | 36 |  |  |  | 25 | T |
| CVS400F | 36 |  |  |  |  | 36 |
| CVS630F | 36 |  |  |  |  | 36 |
| CVS100N | 50 |  | 5 | 25 | 25 | T |
| CVS160N | 50 |  |  | 25 | 25 | T |
| CVS250N | 50 |  |  |  | 25 | T |
| CVS400N/H | 50/70 |  |  |  |  | 36 |
| CVS630N/H | 50/70 |  |  |  |  | 36 |

Transfer Switch Equipment is Totally coordinated up to Icu of circuit breaker installed on supply side. Protection of the Transfer Switch Equipment is not ensured

Class PC transfer switch

## Dimensions and connections

Outline and installation dimensions (mm) for WATSN 100/160 ${ }^{(1)}$ frame


106 frame

| Dimension | Outline dimensions |  |  | Other dimensions |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Frame | L | W | H | A | B | C | D | E | F | G | H1 | H2 | H3 |
| 100-2P | 240 | 125 | 94.5 | 15 | 114 | 18 | 90 | 63.5 | 45 | 138.6 | 15 | 79.5 | 5.4 |
| 100-3P | 240 | 125 | 94.5 | 15 | 114 | 18 | 90 | 63.5 | 45 | 138.6 | 15 | 79.5 | 5.4 |
| 100-4P | 240 | 125 | 94.5 | 15 | 114 | 18 | 90 | 63.5 | 45 | 138.6 | 15 | 79.5 | 5.4 |
| 160-2P | 306 | 164 | 95 | 28 | 118 | 30 | 105 | - | 45 | - | 15 | 80 | - |
| 160-3P | 306 | 164 | 95 | 28 | 118 | 30 | 105 | - | 45 | - | 15 | 80 | - |
| 160-4P | 306 | 164 | 95 | 28 | 118 | 30 | 105 | - | 45 | - | 15 | 80 | - |



Front panel cut-out dimensions

| Frame Dimension | Installation dimensions |  |  | Front panel cut-out dimensions |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | L1 | W1 | $D(\varnothing)$ | L2 | W2 |
| 100-2P | 198 | 127 | 4.5 | 241 | 46 |
| 100-3P | 198 | 127 | 4.5 | 241 | 46 |
| 100-4P | 198 | 127 | 4.5 | 241 | 46 |
| 160-2P | 172 | 136 | 4.5 | 307 | 46 |
| 160-3P | 172 | 136 | 4.5 | 307 | 46 |
| 160-4P | 172 | 136 | 4.5 | 307 | 46 |

[^0]
## Dimensions and connections

Outline and installation dimensions (mm) for WATSN 250/630 frame


| Dimension | Outline dimensions |  |  |  |  | Other dimensions |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Frame | L | W | H | H1 | H2 | A | B | C | D | E | F | G | 1 | J | K | M | T1 | T2 | T3 |
| 250-2P | 360 | 290 | 184 | 162.5 | 146 | 26.8 | 275.6 | 35 | 121.5 | 99.5 | 121.5 | 22 | 56 | 178 | 236 | M8 | 54 | 54 | 103 |
| 250-3P | 395 | 290 | 184 | 162.5 | 146 | 26.8 | 275.6 | 35 | 121.5 | 99.5 | 121.5 | 22 | 56 | 178 | 236 | M8 | 54 | 54 | 103 |
| 250-4P | 430 | 290 | 184 | 162.5 | 146 | 26.8 | 275.6 | 35 | 121.5 | 99.5 | 121.5 | 22 | 56 | 178 | 236 | M8 | 54 | 54 | 103 |
| 630-3P | 470 | 356 | 217.5 | 196 | 174 | 35.6 | 323 | 45 | 152 | 118 | 152 | 23.5 | 80 | 196 | 277 | M10 | 63 | 63 | 124 |
| 630-4P | 515 | 356 | 217.5 | 196 | 174 | 35.6 | 323 | 45 | 152 | 118 | 152 | 23.5 | 80 | 196 | 277 | M10 | 63 | 63 | 124 |



Mounting plate cut-out dimensions


Front panel cut-out dimensions

| Dimension | Installation dimensions |  | Front panel cut-out dimensions |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | L1 | W1 | $\mathrm{D}(\varnothing)$ | L 2 | W2 |
| $250-2 \mathrm{P}$ | 335 | 260 | 6.5 | 237 | 179 |
| $250-3 \mathrm{P}$ | 370 | 260 | 6.5 | 237 | 179 |
| $250-4 \mathrm{P}$ | 405 | 260 | 6.5 | 237 | 179 |
| $630-3 \mathrm{P}$ | 445 | 326 | 8.5 | 278 | 197 |
| $630-4 \mathrm{P}$ | 490 | 326 | 8.5 | 278 | 197 |

## Dimensions and connections

Outline dimensions (mm) of a WATSN add-on module


Note: The dimensions of an add-on module for the WATSN 250/630 frame are consistent with those for the module with 100/160 frame, and only the installation direction is different.


Wiring capacity

| Frame |  | 100 |
| :---: | :---: | :---: |
| Pole partition | $(\mathrm{mm})$ | 18 |
| bus | $\mathrm{L}(\mathrm{mm})$ | $\leq 10$ |
|  | $\mathrm{e}(\mathrm{mm})$ | $\leq 5$ |
| Cable | $\mathrm{L}(\mathrm{mm})$ | 13 |
| Wire Cu/Al | $\mathrm{S}\left(\mathrm{mm}^{2}\right)$ | $1.5 \sim 35$ rigid; $1 \sim 35$ flex |
| Rated torque | $(\mathrm{Nm})$ | 3.5 |
| Torque limit | $(\mathrm{Nm})$ | 3.8 |

Note: When connecting a $1.5 \sim 4 \mathrm{~mm}^{2}$ flex cable, a folded or self-folded metal ferrule is required


Wiring diagram of WATSN 160/250/630 frame

| Frame |  | 160 | 250 | 630 |
| :---: | :---: | :---: | :---: | :---: |
| Pole spacing | $(\mathrm{mm})$ | 30 | 35 | 45 |
|  | $\mathrm{d}(\mathrm{mm})$ | $\leq 10$ | $\leq 10$ | $\leq 19$ |
|  | $\mathrm{~L}(\mathrm{~mm})$ | $\leq 20$ | $\leq 26$ | $\leq 35$ |
| Lug | $\mathrm{L}(\mathrm{mm})$ | $\leq 20$ | $\leq 26$ | $\leq 35$ |
|  | $\varnothing(\mathrm{~mm})$ | $\geq 8$ | $\geq 8$ | $\geq 10$ |
| Rated torque | $(\mathrm{Nm})$ | 8 | 15 | 50 |
| Torque limit | $(\mathrm{Nm})$ | 8.5 | 16.5 | 55 |

## Electrical wiring

Wiring diagrams of function expansion modules for the Type A controller


Notes: (1) The "fire signal" and "release signal" pins on the pulse module cannot receive the pulse signal at the same time.
(2) The capacity of a generator start-stop terminal is DC30V 2A
(3) The Type A controller can combine different types and functions freely. You can only select once the same function for a controller, and the number of any combined modules cannot exceed two.

## Commercial References

| Type of Product | Rated Current(A) | Number of Poles(P) | Commercial References | Short Description |
| :---: | :---: | :---: | :---: | :---: |
| Automatic Transfer Switch | 63 | 2 | NA00632V | ATS,WATSN63/2AV |
| Automatic Transfer Switch | 63 | 3 | NA00633V | ATS,WATSN63/3AV |
| Automatic Transfer Switch | 63 | 4 | NA00634V | ATS,WATSN63/4AV |
| Automatic Transfer Switch | 160 | 2 | N2A01602V | ATS,WATSN160/2AV |
| Automatic Transfer Switch | 160 | 3 | N2A01603V | ATS,WATSN160/3AV |
| Automatic Transfer Switch | 160 | 4 | N2A01604V | ATS,WATSN160/4AV |
| Automatic Transfer Switch | 250 | 3 | NA02503V | ATS,WATSN250/3AV |
| Automatic Transfer Switch | 250 | 4 | NA02504V | ATS,WATSN250/4AV |
| Automatic Transfer Switch | 630 | 3 | NA06303V | ATS,WATSN630/3AV |
| Automatic Transfer Switch | 630 | 4 | NA06304V | ATS,WATSN630/4AV |
| Remote Transfer Switch | 63 | 2 | NR00632 | RTS,WATSN63/2R |
| Remote Transfer Switch | 63 | 3 | NR00633 | RTS,WATSN63/3R |
| Remote Transfer Switch | 63 | 4 | NR00634 | RTS,WATSN63/4R |
| Remote Transfer Switch | 160 | 2 | N2R01602 | RTS,WATSN160/2R |
| Remote Transfer Switch | 160 | 3 | N2R01603 | RTS,WATSN160/3R |
| Remote Transfer Switch | 160 | 4 | N2R01604 | RTS,WATSN160/4R |
| Remote Transfer Switch | 250 | 3 | NR02503 | RTS,WATSN250/3R |
| Remote Transfer Switch | 250 | 4 | NR02504 | RTS,WATSN250/4R |
| Remote Transfer Switch | 630 | 3 | NR06303 | RTS,WATSN630/3R |
| Remote Transfer Switch | 630 | 4 | NR06304 | RTS,WATSN630/4R |
| Accessory |  |  | NF001 | X1-DC24V Constant voltage fire linkage |
| Accessory |  |  | NF002 | X2-DC24V Pulse fire linkage |
| Accessory |  |  | NF003 | X3-AC220V Constant voltage fire linkage |
| Accessory |  |  | NF004 | X4-AC220V Pulse fire linkage |
| Accessory |  |  | NF005 | X5-Passive fire linkage |
| Accessory |  |  | NF006 | G-Genset control module |
| Accessory |  |  | NF007 | T-Communication module |
| Accessory |  |  | NF008 | GT-Genset control\&Communication module |
| Accessory |  |  | NF009 | Frame 100 Terminal shield |
| Accessory |  |  | NF010 | Frame 100 OF-contact module |
| Accessory |  |  | NF011 | Frame 100 DIN rail latch |
| Accessory |  |  | NF012 | RC2-Remote control to S2 |
| Accessory |  |  | NF015 | Frame 250 EIP ( $\times 3$ ) (interphase bareer) |
| Accessory |  |  | NF016 | Frame 630 EIP ( $\times 3$ ) (interphase bareer) |
| Accessory |  |  | NF026 | Frame 160 DIN rail latch |
| Accessory |  |  | NF027 | Frame 160 Terminal shield |
| Accessory |  |  | NF028 | T-Helper Operation and maintenance Helper |

NOTES

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[^0]:    Notes: (1) The launching time for the 160 frame series is subjected to further notice of the marketing department.

