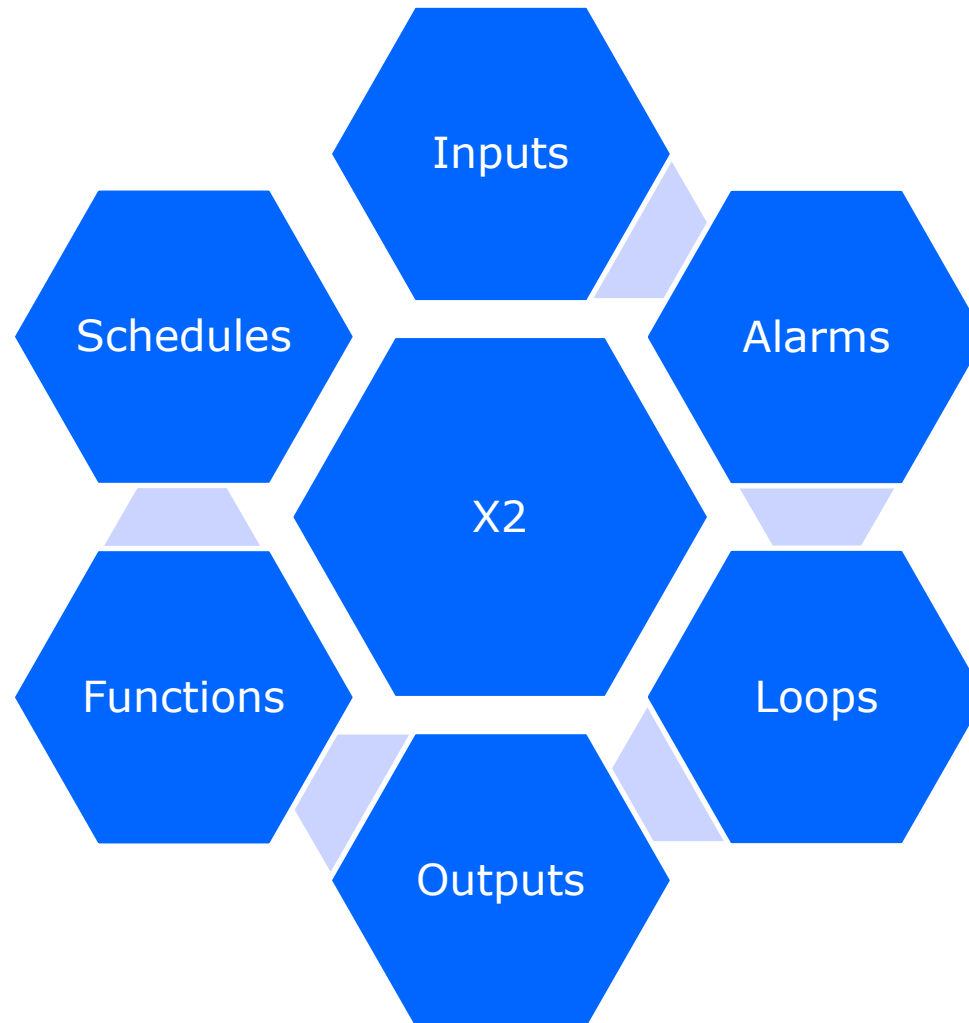




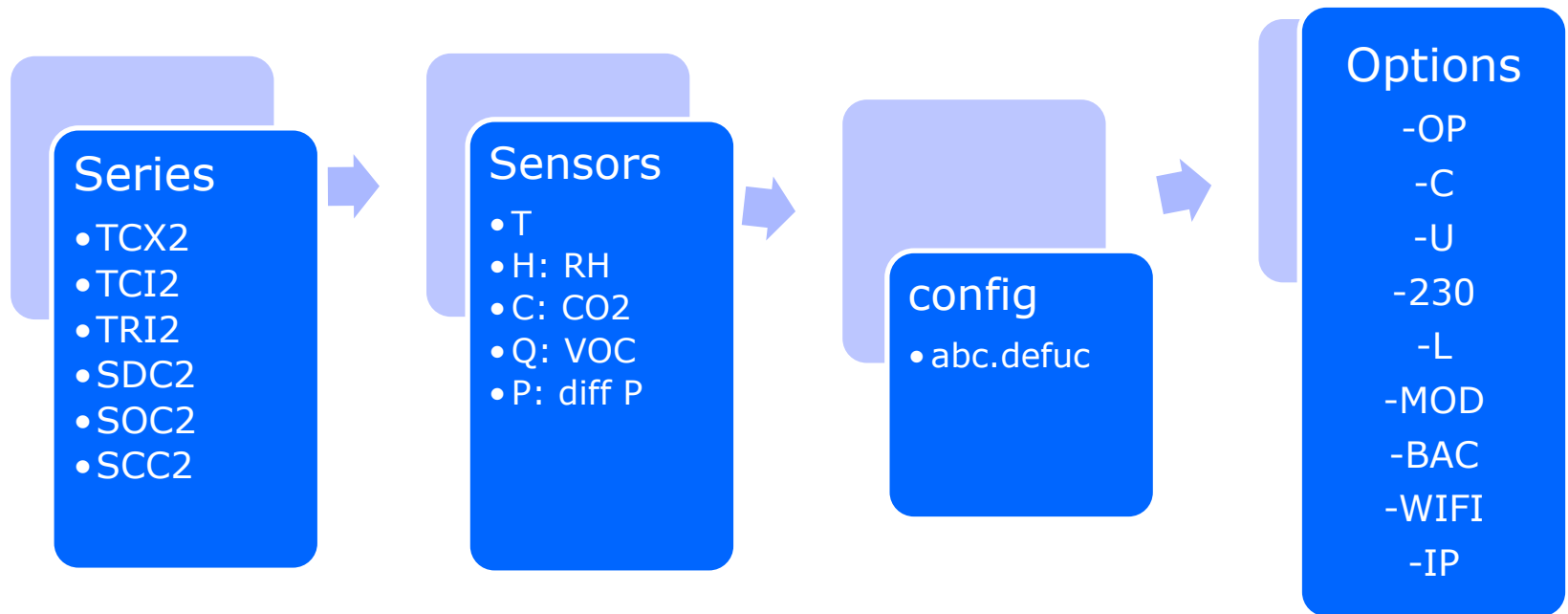
**Welcome to the
X2 Operating System
Introduction
of Vector Controls**

April 2022

- ▲ X2 Operating system
 - X2 Setup process
 - X2 Product ID & Series
 - Cabinet mounted TCX2
 - Cabinet compact TCI2
 - CONSENS SDC2/SOC2/SCC2
 - Wall mounted TRI2
 - Configuration tool: EasySet
 - New: WIFI and Ethernet
 - Modbus TCP
 - BACnet IP
 - Webserver

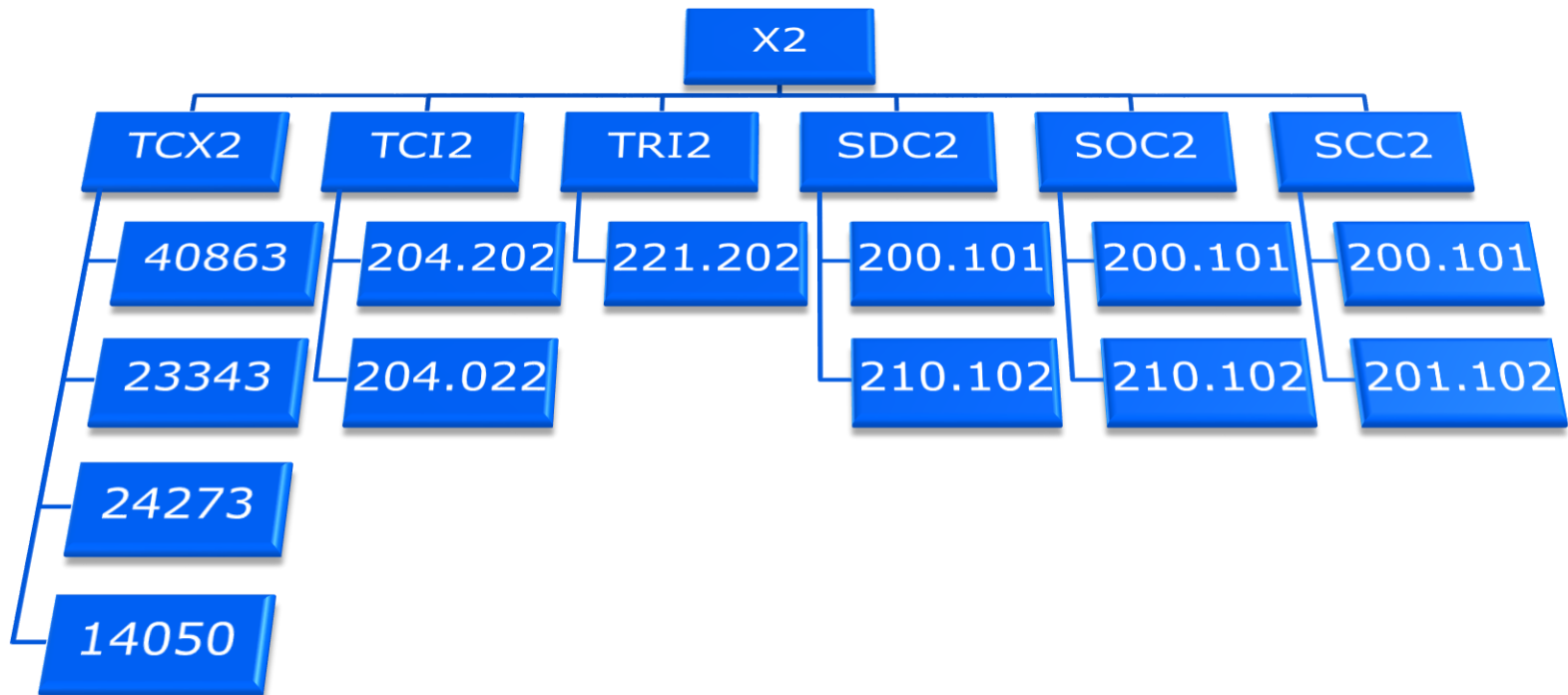


- ▲ One operating system for a complete generation of products
- ▲ Same functions, parameters, configuration and features
- ▲ Different numbers and specs of inputs, outputs, functions depending on type and series
- ▲ Communication plug-ins for Modbus RTU, Modbus TCP, BTL listed BACnet MS/TP and BACnet IP over Ethernet and WI-FI



▲ TCI2-abc.def(uc)-zzz

- a = Number of control loops
- b = Number of passive inputs
- c = Number of universal or analog inputs
- d = Number of binary outputs relays
- e = Number of binary outputs Triacs
- f = Number of analog outputs mA und VDC
- u = Universal: all universal inputs are NTC/mA/VDC and for TCI2: PT1000/NTC/mA/VDC, all analog outputs are mA/VDC
no u = all analog in and outputs are VDC, all passive inputs are NTC.





- Up to 4 Control loops
- 8 Universal inputs
NTC/mA/VDC
- 6 Binary outputs
Relays
- 3 Analog outputs
mA/VDC
- 8 Alarm conditions
- 12 weekly and annual
schedules
- -OP = Integrated operation
terminal
- MODBUS or BACnet MS/TP
or BACnet IP
communication

▲ General:

- -MOD: Modbus RTU/ASCII RS485,
- -ETM: Modbus TCP over Ethernet
- -WEM: Modbus TCP over WIFI
- -BAC: BACnet MS/TP RS485 (BTL listed)
- -ETB: BACnet IP over Ethernet (BTL listed)
- -WEB: BACnet IP over WIFI (BTL listed)
- -OP: Integrated operation terminal
- -230: 230V power supply -120: 120V power supply

▲ TCX2-40863 (-OP)(-MOD)(-OP-MOD)(-ETM)(-WEM)

▲ TCX2-40863 (-BAC)(-OP-BAC)(-ETB)(-WEB)

▲ TCX2-23343 (-MOD)(-BAC)

▲ TCX2-24273 (-230)(-MOD)(-230-MOD)(-ETM)(-WEM)

▲ TCX2-24273 (-BAC)(-230-BAC)(-ETB)(-WEB)

▲ TCX2-14050 (-MOD)(-BAC)(-C)(-120-BAC)



- 24V or Line Voltage version
- 2 Control loops
- 4 Universal inputs:
NTC, PT1000, mA, VDC
- 2 Binary outputs: TRIAC or
Relays
- 2 Analog outputs: mA/VDC
- 8 Alarm conditions
- Optional time schedules and RTC
- Optional integrated operation
terminal
- MODBUS, BACnet

▲ General:

- -MOD: Modbus RTU/ASCII RS485,
- -ETM: Modbus TCP over Ethernet
- -WEM: Modbus TCP over WIFI
- -BAC: BACnet MS/TP RS485 (BTL listed)
- -ETB: BACnet IP over Ethernet (BTL listed)
- -WEB: BACnet IP over WIFI (BTL listed)
- -OP: Integrated operation terminal
- -L: 100 - 250V power supply

- ▲ TCI2-204.202UC (-OP)(-OP-L)
- ▲ TCI2-204.202UC (-MOD)(-OP-MOD)(OP-MOD-L)
- ▲ TCI2-204.202UC (-WEM)(-WEM-L)(-ETM)
- ▲ TCI2-204.202UC (-BAC)(-OP-BAC)
- ▲ TCI2-204.202UC (-ETB)(-WEB)(WEB-L)
- ▲ TCI2-222.200



- 24V
- 2 Control loops
- 2 passive inputs: NTC
- 1 active input: VDC
- 2 Binary outputs: Relays NO
- 2 Analog outputs: VDC
- 8 Alarm conditions
- Optional time schedules and RTC
- MODBUS, BACnet

▲ General:

- -MOD: Modbus RTU/ASCII RS485,
- -WIM: Modbus TCP over WIFI (internal Antenna)
- -BAC: BACnet MS/TP RS485 (BTL listed)
- -WIB: BACnet IP over WIFI (BTL listed) (internal Antenna)
- -T: Internal temperature sensor
- -H: Internal humidity sensor
- -FA: Square mounting plate
- -FU: Rectangular mounting plate

▲ TRI2-FA-T-221.202C (-MOD)(-BAC)(-WIM)(-WIB)

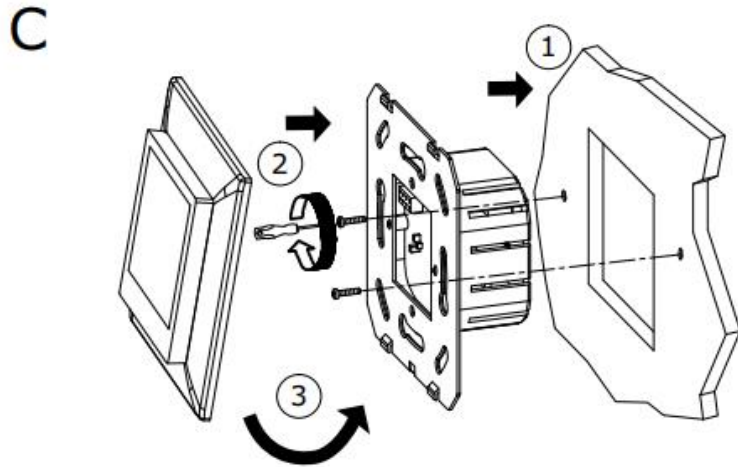
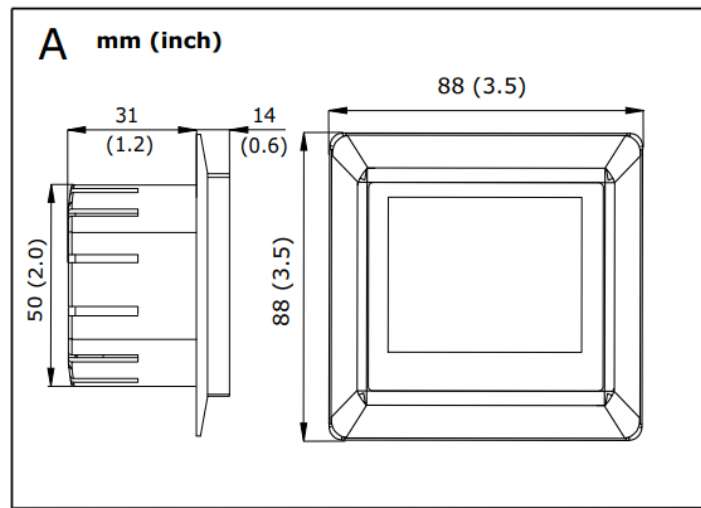
▲ TRI2-FA-TH-221.202C (-MOD)(-BAC)(-WIM)(-WIB)

▲ TRI2-FU-TH-221.202C (-MOD)(-BAC)(-WIM)(-WIB)

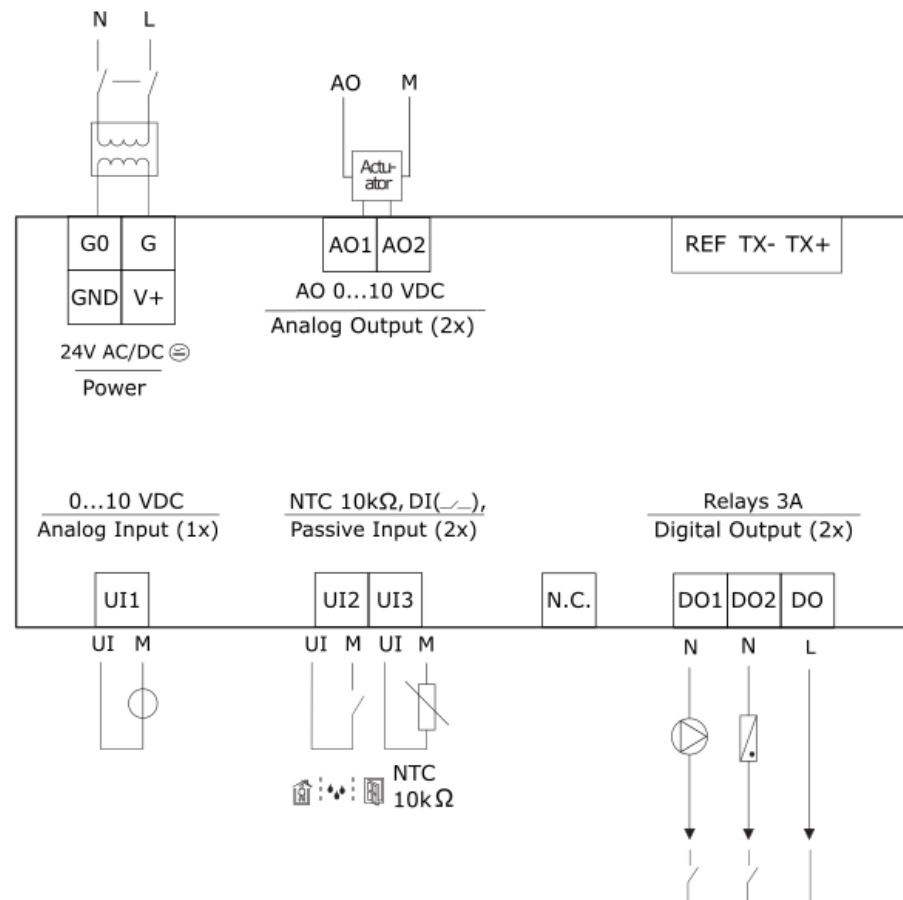


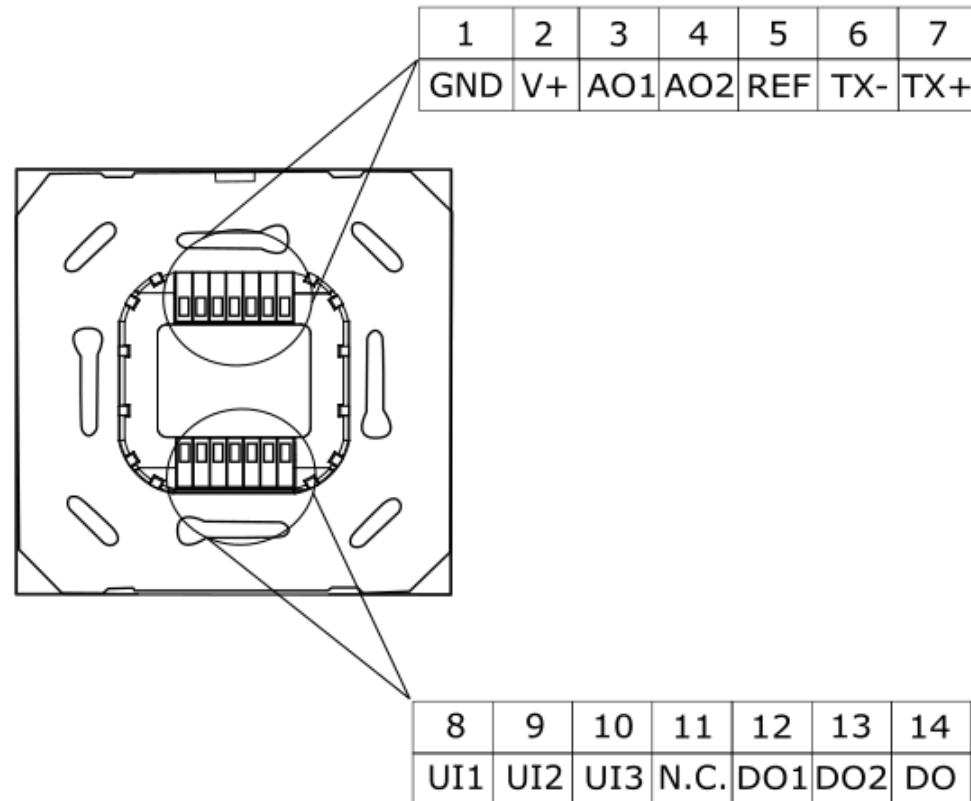
- Modular concept allows for flexible mounting
- Independent frame simplifies customization
- Sufficient space for client logo if required

- ▲ OPT1 Housing: US, EU and CH frame
- ▲ Dimensions and installation same as OPT1



TRI2-Wiring Diagram







Measures

- ▲ -T: Temperature
- ▲ -H: Relative Humidity
- ▲ -C: CO2: Air quality through CO2
- ▲ -Q: VOC: Air quality through volatile compounds
- ▲ - P: differential air pressure

SDC2-Mounting Flange



- ▲ Easy mounting
- ▲ No tools required for sensor removal
- ▲ Patented twist and fix mechanism
- ▲ Mounts on flat and round ducts





- 2 Control loops
- 1 passive input
- 2 TRIAC or 1 SPDT Relays
- 2 Analog outputs mA/VDC
- 4 Assignable alarm conditions
- Optional
 - RTC/Time schedules
 - integrated operation Terminal
 - External operation terminal
 - Bus plug-in
 - AEC-PM2

▲ General:

- SDC2: X2 type duct sensor
- -T: Internal temperature sensor
- -H: Internal humidity sensor
- -Q: VOC air quality sensor
- -C: CO2 sensor
- -MOD: Modbus RTU/ASCII RS485,
- -BAC: BACnet MS/TP RS485 (BTL listed)

▲ SDC2(-T)(-C)-200.101U (-MOD)(-BAC)

▲ SDC2(-TH)(-THQ)(-THC)(-THCQ)-210.102U (-MOD)(-BAC)



SDC2



SDC2-OP



SOC2



SCC2

▲ General:

- SOC2: X2 type Outdoor or surface mounted sensor
- -T: Internal temperature sensor
- -H: Internal humidity sensor
- -Q: VOC air quality sensor
- -C: CO2 sensor
- -OP: with integrated operation terminal (OPC2-S)
- -MOD: Modbus RTU/ASCII RS485,
- -WIM: Modbus TCP over WIFI (internal Antenna)
- -BAC: BACnet MS/TP RS485 (BTL listed)
- -WIB: BACnet IP over WIFI (BTL listed) (internal Antenna)

▲ SOC2(-TH)-210.102U (-OP)

▲ SOC2(-TH)-210.102U (-MOD)(-OP-MOD)(-WIM)

▲ SOC2(-TH)-210.102U (-BAC)(-OP-BAC)(-WIB)

▲ General:

- SCC2: X2 type surface mounted sensor
- -T: Internal temperature sensor
- -H: Internal humidity sensor
- -Q: VOC air quality sensor
- -C: CO2 sensor
- -P: Differential pressure, P1: ± 25 Pa, P2: ± 100 Pa, P3: ± 500 Pa
- -MOD: Modbus RTU/ASCII RS485,
- -WIM: Modbus TCP over WIFI (internal Antenna)
- -BAC: BACnet MS/TP RS485 (BTL listed)
- -WIB: BACnet IP over WIFI (BTL listed) (internal Antenna)

▲ SCC2(-C)(-Q)-200.101U (-MOD)

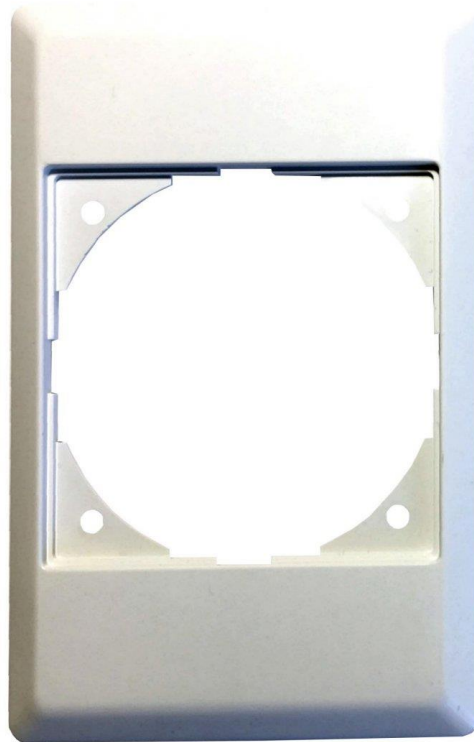
▲ SCC2(-CQ)-210.102U (-MOD)(-BAC)

▲ SCC2(-P1)(-P2)(-P3)(-OP)-200.101U (-MOD)(-BAC)

OPT1 Operation terminal



Frame & Mounting
plate
Square



Frame & Mounting
plate
Rectangular

- Temperature Sensor
- Opt. Humidity Sensor
- Universal mounting

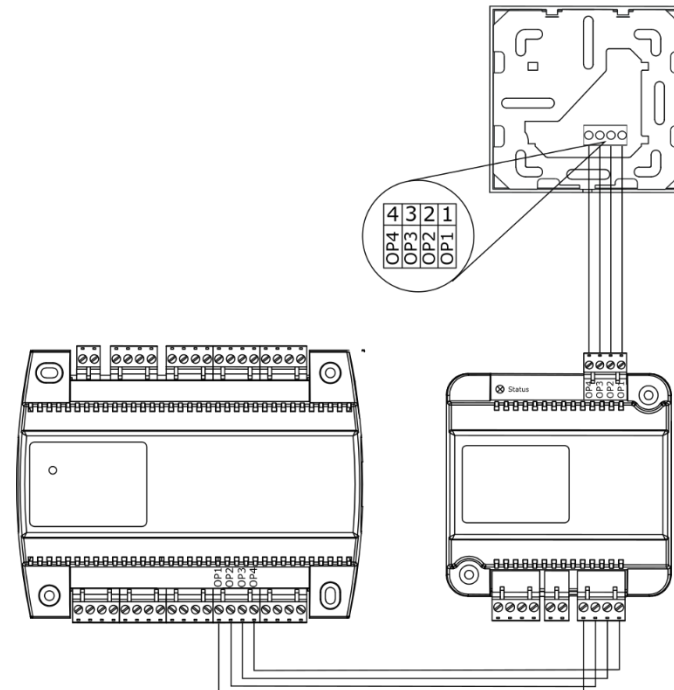


Touch



- Accessory for 4 additional inputs
- Accessible through VI:
- Works with all X2 except TRI2.

TCX2 ↔ AEI ↔ OPA2



- Connect to OP-port.
- Connect optional OPA2-VC in series
- Selectable with jumper:
NTC, VDC and mA



- ▲ To Save Applications to Multiple Controllers
- ▲ As Backup or as configuration tool
- ▲ Automatic load on power up
- ▲ Automatic increment of address





- ▲ Upload/Download configuration
- ▲ Save projects
- ▲ Use Templates for efficient development
- ▲ Run Trends
- ▲ Easy configure time schedules

▲ WIFI operation modes

- Access point mode: The X2 controller provides own access point with a fixed IP: 192.168.4.1
- Station mode: The X2 controller connects to an existing WIFI network

▲ User Account Management

- The usernames are fixed as:
 - Admin
 - User
 - Guest

▲ Function

- Basically same as operation terminal. See demo by Dominik Kaufmann:



Quality – Innovation – Partnership