

SYNCHROTEQ[®] COMMUNICATION MODULE



RWK000016



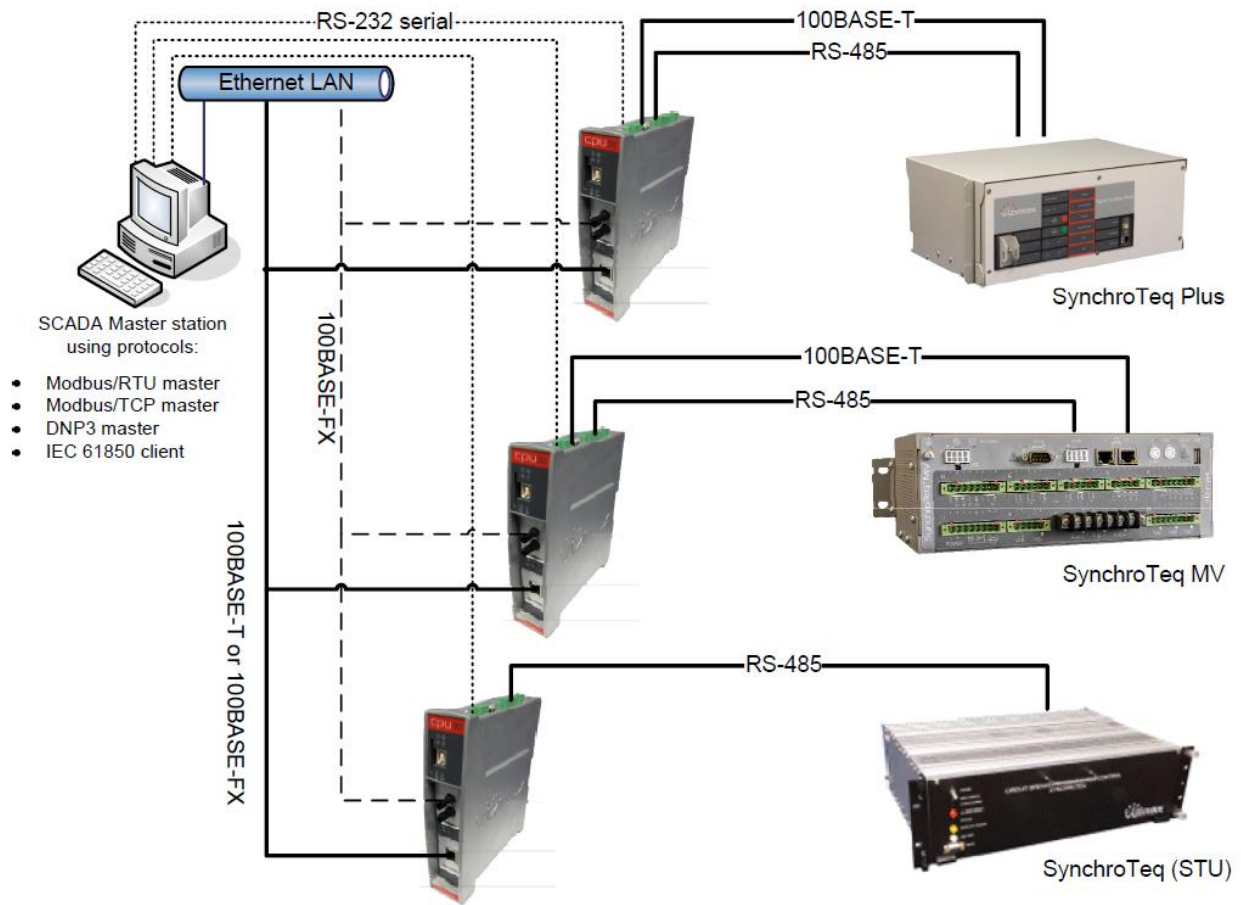
RWK000016F (with 2 fiber optic ports)

DESCRIPTION

The VIZIMAX SynchroTeq Communication Module (RWK000016 / RWK000016F) allows a master device to communicate with or operate SynchroTeq units using IEC 61850 Ed-1, Modbus or DNP3 protocols on an Ethernet LAN (or Modbus/RTU on a serial link).

A master device can be (for example) a DNP3 master station, IEC 61850 client, a substation computer or a substation controller. The SynchroTeq Communication Module is compatible with the following controlled switching platforms of HV circuit breaker:

- **STP030000: SynchroTeq Plus** base unit – Available in rackmount or standalone versions. For more information, please refer to document SynchroTeq Plus datasheet, STP030000-SP-en.
- **STM0x0000: SynchroTeq MV** units. SynchroTeq Communication Module is available with all SynchroTeq MV units. For more information, please refer to SynchroTeq MV datasheet, STM0x0000-SP-en
- **STU0x5000: Legacy SynchroTeq (STU)** base unit with communication module compatibility. For more information, please contact your Vizimax representative.



FEATURES

PROTOCOLS SUPPORTED

The following protocols are supported by SynchroTeq Communication Module:

- DNP3 Slave
- IEC 61850 Server (Edition 1)
- Modbus/TCP slave
- Modbus/RTU slave

MOUNTING

DIMENSIONS

| Specifications | Value |
|----------------|--|
| Width | 44.5 mm (1.75") |
| Height | 152 mm (6") |
| Depth | 133 mm (5.25") |
| Weight | 720g (1.6 lb.) |
| Enclosure | Aluminium |
| Mounting | DIN rail or panel mount with optional adapter (RWA AA0000) |



FIGURE 1 Din Rail Mounting



FIGURE 2 Panel mount with optional adapter (RWA AA0000)

SYNCHROTEQ COMMUNICATION MODULE CHARACTERISTICS

COMPLIANCE



CONFORMITY

| Specifications | Value | Standards |
|-------------------|---------------------------|---|
| Temperature | Operating | -40°C to +75°C |
| | Storage | -65°C to +90°C |
| Relative humidity | 5% to 95%, non-condensing | |
| Immunity | | IEC 61000-4-2 IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-5 IEC 61000-4-6 |

COMMUNICATIONS

SERIAL PORTS

SynchroTeq Communication module has double serial ports on the top, with the following characteristic:

| Specifications | Value |
|---------------------|---|
| Number | 2 |
| Communication modes | Serial-1: RS-485 two-wire or RS-422 4-wire mode Serial-2: RS-232 |
| Support | Full support of modem control signals with RS-485 |
| Connector | screw type |
| Isolation | 2 kV galvanic isolation |

ETHERNET PORTS

The SynchroTeq Communication Module offers several Ethernet ports:

RWK000016 model:

Ethernet Top-1

| Specifications | Value |
|----------------|---|
| Number | 1 |
| Location | Top-1 Ethernet port |
| Communication | Ethernet communications on twisted-pair copper (category 5) |
| Interface | Auto MDIX, 10 Mbps (10Base-T) and 100 Mbps (100Base-T) |
| Support | Multi-protocol support |
| Connector | RJ45 |
| Isolation | 1500 Vrms galvanic |

Ethernet Front-1 (upper front – fiber optic)

| Specifications | Value |
|----------------|--|
| Number | 1 |
| Location | Front-1 Ethernet port |
| Communication | Fiber optic |
| Interface | 100 Mbps (100Base-FX version of IEEE 802.3u) |
| Support | Multi-protocol support |
| Connector | Duplex ST connector |
| Others | 1300 nm product with optical performance compliant with the FDDI PMD standard (ISO/IEC 9314-3:1990 and ANSI X3.166 – 1990) Support of up to 2 km multimode fiber backbone |

Ethernet Front-2 (lower front – RJ45)

| Specifications | Value |
|----------------|--|
| Number | 1 |
| Location | Front-2 Ethernet port |
| Communication | Twisted-pair copper (category 5) |
| Interface | Auto MDIX, 10 Mbps (10Base-T) and 100 Mbps (100Base-T) |
| Support | Multi-protocol support |
| Connector | RJ45 |
| Isolation | 500 Vrms galvanic isolation |

RWK000016F model:

Ethernet Top-1

| Specifications | Value |
|----------------|---|
| Number | 1 |
| Location | Top-1 Ethernet port |
| Communication | Ethernet communications on twisted-pair copper (category 5) |
| Interface | Auto MDIX, 10 Mbps (10Base-T) and 100 Mbps (100Base-T) |
| Support | Multi-protocol support |
| Connector | RJ45 |
| Isolation | 1500 Vrms galvanic |

Ethernet Front-1 (upper front – fiber optic)

| Specifications | Value |
|----------------|--|
| Number | 1 |
| Location | Front-1 Ethernet port |
| Communication | Fiber optic |
| Interface | 100 Mbps (100Base-FX version of IEEE 802.3u) |
| Support | Multi-protocol support |
| Connector | Duplex ST connector |
| Others | 1300 nm product with optical performance compliant with the FDDI PMD standard (ISO/IEC 9314-3:1990 and ANSI X3.166 – 1990) Support of up to 2 km multimode fiber backbone |

Ethernet Front-2 (lower front – fiber optic)

| Specifications | Value |
|----------------|--|
| Number | 1 |
| Location | Front-2 Ethernet port |
| Communication | Fiber optic |
| Interface | 100 Mbps (100Base-FX version of IEEE 802.3u) |
| Support | Multi-protocol support |
| Connector | Duplex ST connector |
| Others | 1300 nm product with optical performance compliant with the FDDI PMD standard (ISO/IEC 9314-3:1990 and ANSI X3.166 – 1990) Support of up to 2 km multimode fiber backbone |

DIGITAL OUTPUT

| Specifications | Value |
|----------------|--|
| Number | 1 |
| Rated voltage | 250 V dc, 250 V ac maximum; 0.5 A maximum |
| Isolation | 2 kV galvanic |
| Others | Used as a watchdog timer output ("System OK" application) or as a general purpose output |

POWER SUPPLY

| Specifications | Value |
|------------------------------------|--|
| Operating range | 8 to 30 VDC \pm 10% (7.2 to 33 VDC) |
| Power requirements | 3W nominal |
| AC/DC power supply recommendation: | Lambda DPP30-24 (85-260 VAC, 90-375 VDC, 15W)) |

INSTALLATION AND CONFIGURATION

The SynchroTeq Communication Module comprises the following products:

- A RightWON Satellite CPU. Refer to RWU010000-SP-en, RightWON Satellite CPU – Datasheet
- A 100Base-FX Ethernet plug-in on the unit's Front-1 slot (and Front-2 slot for RWK000016F model). Refer to RWC0D0000-SP-en, 100Base-FX Ethernet Plug-in - Datasheet.
- A 100Base-T Ethernet plug-in on the unit's Front-2 slot for RWK000016 model. Refer to RWC0C0000-SP-en, 100Base-T Ethernet Plug-in - Datasheet.
- A 100Base-T isolated combo plug-in, one RS-485-422, one RS-232, one DO on the unit's Top-1 slot. Refer to RWC0T0000-SP-en, Isolated Combo Plug-In - 100Base-T, 1xRS485-422, 1xRS232, 1DO – Datasheet.

For the installation and configuration of the SynchroTeq Communication Module, please refer to the 'SynchroTeq Communication Module User Guide' (*RWK000016-UG-en*) and to the datasheet of each sub-assembly module.

ORDERING INFORMATION

RWK000016: SynchroTeq Communication Module includes: 2 x Ethernet 100BASE-T + 1 x Ethernet 100BASE-FX multimode + 2 x serial ports) – Protocols DNP3 slave + IEC 61850 server (Edition 1) + Modbus TCP/RTU slave- Temperature: -40° C to +75° C (-40° F to +165° F).

RWK000016F: SynchroTeq Communication Module includes: 1 x Ethernet 100BASE-T + 2 x Ethernet 100BASE-FX multimode + 2 x serial ports) – Protocols DNP3 slave + IEC 61850 server (Edition 1) + Modbus TCP/RTU slave- Temperature: -40° C to +75° C (-40° F to +165° F).

Options:

RWS020000 SynchroTeq Communication Software, with integrated SCL editor and activation key (Dongle). (See *RightWON Configuration Suite - Manual*.)



Support contact:

support@vizimax.com
www.vizimax.com/support

Vizimax, the Vizimax logo, RightWON, WiseWON, SynchroTeq, SynchroTeq Plus and the RightWON icons are trademarks or registered trademarks of Vizimax, Inc. in Canada, the United States and other jurisdictions. All other trademarks, registered trademarks and service marks are the property of their respective owners.

V-FOPR03-011en (2016-03-22)