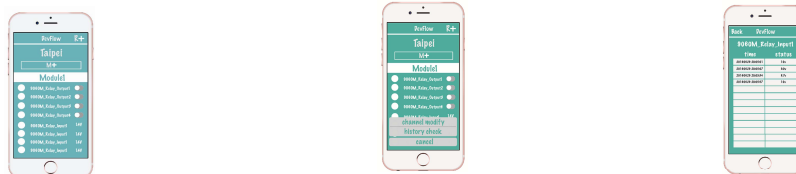


Quick Manual of Universal I/O Controller (I IOT App & Cloud solution)

Intelligent Universal I/O Controller by App (i OS/ Android)

Let User can easy to install the Remote I/O Controller in the Harsh environment .The Remote I/O Controller was one of engineering level devices. Now we make User easy to install & control by App with Cloud .



Application for sensor K type Thermocouple between -270 ~ +1372 degree Celsius by App control thru Wi-Fi & RS485 bus of EX9018-M:

The App functions: (Sampling Rate: 2 ~ 5 minutes for selection)

1. Setting/ Configuring the range of Temperature Value of K Sensor Type to meet environment required by App.
 2. If it Higher than the Setting Value then enable the User to e-mail out to Supervisor by App or receive the e-mail from the existed environment by Cloud Server.
 3. If it Lower than the Setting Value then enable the User to e-mail out to Supervisor by App or receive the e-mail from the existed environment by Cloud Server.
 4. When read the Value between the Setting Value then record it every time within 24Hrs .
 5. Average and Record the read Value after 24Hrs. Also User will receive the e-mail with all of reading data after 24Hrs.
-

The Step of App operation:

1. Download the Starter kit App
2. Creat a Starter Kit Account
3. Setup the Internet Hub(password)
4. Setup Time Zone
5. Event log

Universal I/O Controller (I IOT App & Cloud solution)

1. Setting/ Configuring the range of Value of 4~20 mA (Setting Value +/- 7%) to meet environment require by APP.

2. If it Higher than the Setting Vale then enable the User to e-mail/ SMS out to Supervisor by APP or receive the e-mail/ SMS from the existed environment by Cloud Server.

3. If it Lower than the Setting Vale then enable the User to e-mail/ SMS out to Supervisor by APP or receive the e-mail/ SMS from the existed environment by Cloud Server.

4. When read the Value between Setting Value then record it every time within 24Hrs .

5. Average and Record the read Value after 24Hrs .

Wire Connection of EX9018-M & EX9486CW-MTCP :

Drawing of Wire Connection :

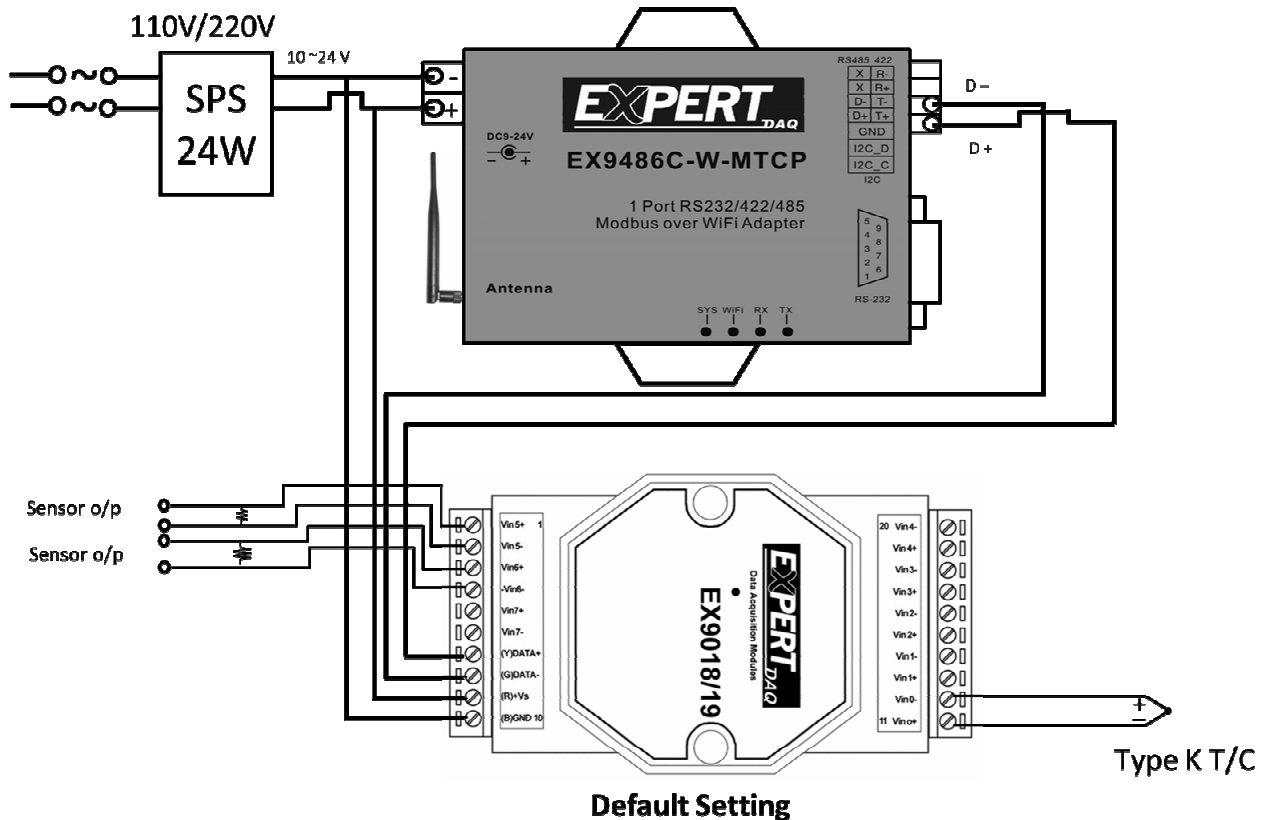


Fig. 1-1

Note:

1. Default setting of EX9018-M: Baud Rate: 9600bps ; CheckSum: Non; 8, N , 1; Address: 1; Modbus Mode; Type: K (-270 ~ +1372 degree Celsius) please ref. the individual Manual of EX9018-M series.
2. Default Setting of EX9486CW-MTCP: Router IP Setting & Cloud Server Setting ... that please ref. Fig. 2-2; 3-3 ; 4-4



Universal I/O Controller (I IOT App & Cloud solution)

Wiring Recommendations:

1. It is recommended to
use shielded wire and connect the shielding to the
Execution current of channel.
2. For RS-485, use insulated and twisted pair 24 AWG wire, e.g.
Belden 9841
3. Use 26-12 AWG wire for signal connections.

The Default Setting of EX9486CW-MTCP: Router IP Setting & Cloud Server Setting ... that please ref. Fig. 2-2; 3-3 ; 4-4

The screenshot shows the 'Wi-Fi' configuration page. At the top, there are three tabs: 'System', 'Network' (which is selected and highlighted in blue), and 'GateWay'. Below the tabs, the 'Wi-Fi' section is displayed. It contains the following fields:

- Network Type :** A dropdown menu set to 'Infrastructure'.
- SSID :** A text input field containing 'Gxi0306'. To the left of the input is a 'Scan' button.
- Auth Mode :** A dropdown menu set to 'WPA2-PSK'.
- Auth Password :** A text input field containing 'stephy1222'.
- Encrypt :** A dropdown menu set to 'AES'.

Choose Network -> change SSID and password for local wifi

Fig. 2-2

The screenshot shows the 'Network' configuration page. At the top, there are three tabs: 'System', 'Network' (which is selected and highlighted in blue), and 'GateWay'. Below the tabs, the 'Network' section is displayed. It contains the following fields:

- Network Mode :** A dropdown menu set to 'Fixed Address'.
- IP address :** A text input field containing '192.168.1.100'.
- Mask :** A text input field containing '255.255.255.0'.
- Gateway :** A text input field containing '192.168.1.1'.
- DNS :** A text input field containing '192.168.1.1'.

Choose Network -> change IP address and mask and Gateway for local wifi

Fig. 3-3

Universal I/O Controller (I IOT App & Cloud solution)

Modbus Gateway Log out
ver : 1.0.11

System Network GateWay

Gateway

Mode : TCP Client to RTU Slave

Message Timeouts(ms) : 500

TCP SERVER PROPERTIES

Destination IP : 218.161.2.177

Destination Port : 12345

Choose Gateway -> change mode to **TCP Client to RTU slave** -> change Destination IP to **218.161.2.177** and port to **12345**

Fig. 4-4



Universal I/O Controller (I IOT App & Cloud solution)

Relative Information:

Wire Connection of EX9018-M & EX9486C-W-MTCP ref. the Quick Manual of Starter Kit .

Default setting of EX9018-M: Baud Rate: 9600bps ; CheckSum: Non; 8, N , 1; Address: 1; Modbus Mode; Type: K please ref. the individual Manual of EX9018-M series.

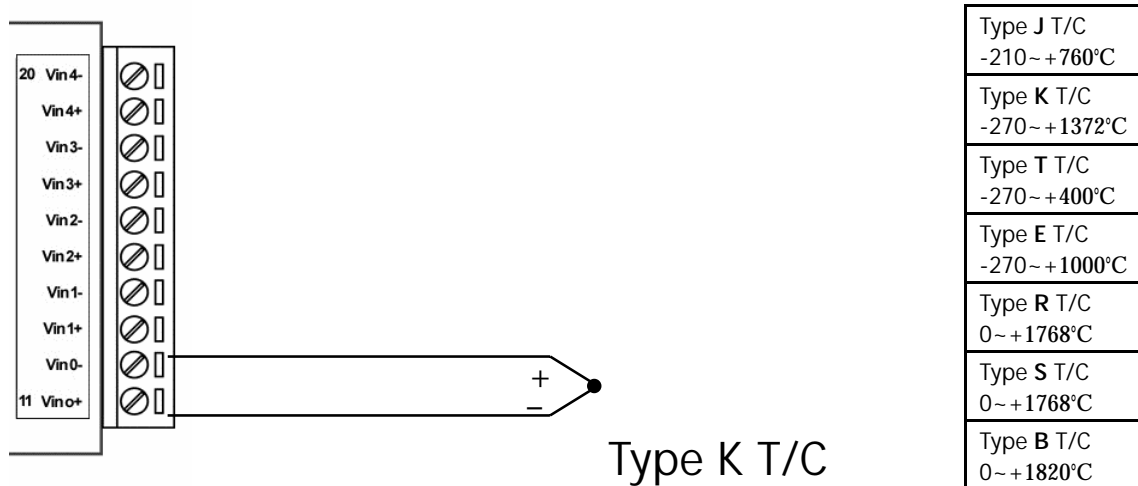
Default Setting of EX9486-MTCP: Router IP Setting & Cloud Server Setting ... ref Manual of EX9486CW-MTCP

Sensor Spec. & Type : K Thermocouple between -270 ~ +1372 degree Celsius all was Thermocouple Measure to Input of EX9018-M.

Also ref. the Manual of Starter Kit for Sensor Spec. & Type

Wire Connection of Thermocouple:

EX9018-M

Channel 1 ~ Channel 7 wiring same as Channel 0

Reference of some Sensors:

Thermocouple sensor with Cement-On Surface

- Styles 1 and 2 are made from 0.0005" thermocouple alloy foil by a special process where the butt welded thermocouple junction is 0.0005" in thickness. Styles 1 and 2 are flat, extremely low inertia construction and are an ideal means of measuring the temperature of both flat and curved metals, plastic and ceramic surfaces where very fast response is desired.

Style 1 and 2 thermocouples are fabricated from ANSI "Special Limits of Error" grade thermocouple materials in "K", "E" and "T" calibrations and yield accurate temperature indication when used with standard thermocouple instrumentation. Styles 1 and 2 have the fastest response. Style 3 is an economy version constructed from 0.010" diameter bead welded standard limit of

Universal I/O Controller

(I IOT App & Cloud solution)

error thermocouple wire. It should be used where extremely fast response is not essential. Response Time in Milliseconds.

- Made from 0.0005" Foil and 0.010" Diameter Thermocouple Wire
- Very Low Thermal Inertia
- Four Calibrations "K", "E", "J" and "T"
- Lead lengths: Style 1 and 3 are 1m (40") long. Style 2 is 150mm (6") long, standard. Additional lengths are available on request.



Universal I/O Controller (I IOT App & Cloud solution)

Appendix A : (User don't use the App func.)

Wire Connection & Pin Assignment of normal func.:

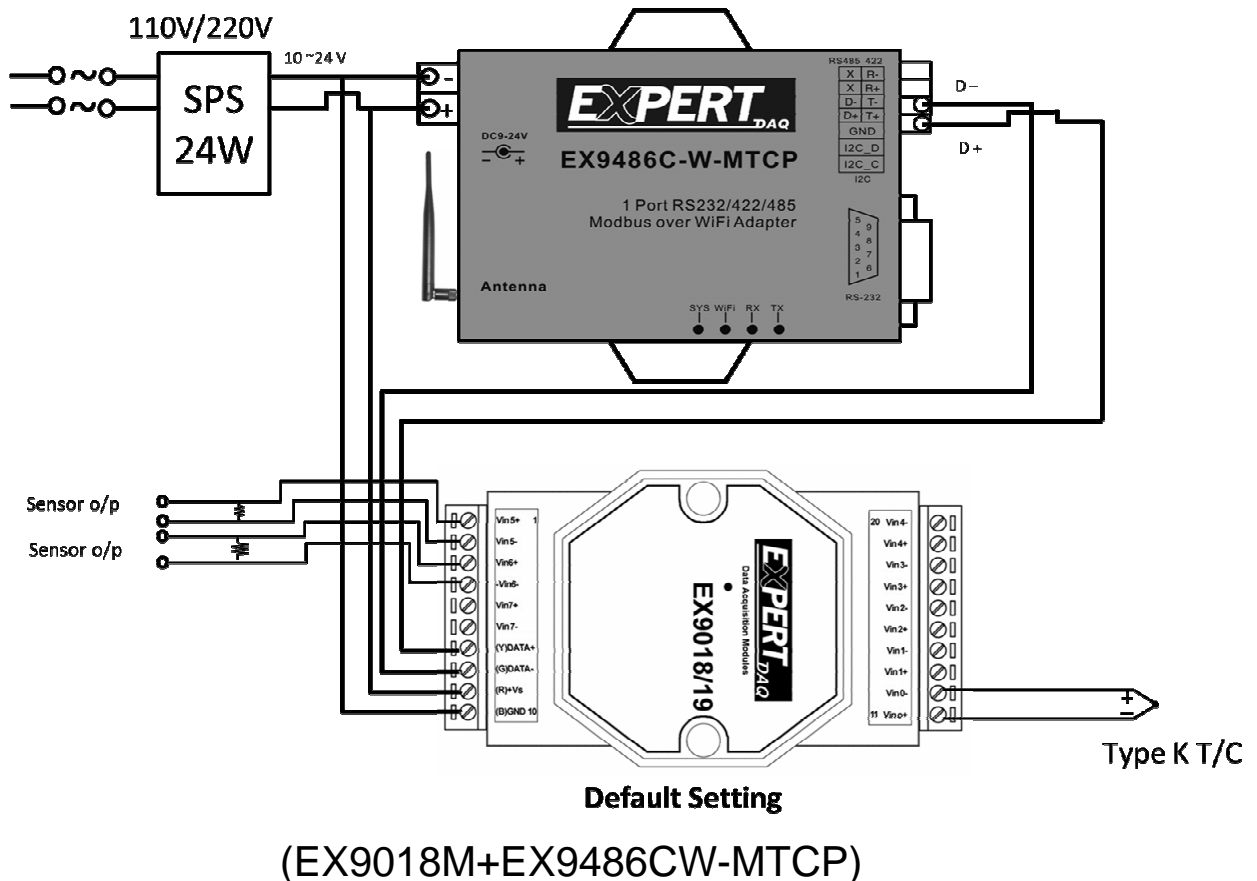


Fig. 6-6.

1. User can stand alone or configure it by yourself for different Applications as K Thermocouple between -270 ~ +1372 degree Celsius Analog signal for different Sensors as individual Manual of EX9018-M
2. The module of EX9018-M can be set as Modbus or ASCII mode by Command sets and Utility of EX9000/EX9000-M to set different parameters.

Note:

1. When you change App function to normal function that you must record/ memo the Setting of EX9486CW-MTCP & EX9018-M for you want change back to App functions.
2. Please refer to the individual Manual of EX9018-M and EX9486CW-MTCP(IP Setting of Router(LAN) & (WAN)) if you don't use the App functions .

Appendix B:

Functions Expandable of Starter Kit 's App

Users bought EX9018-M of Starter Kit for sensor K Thermocouple between -270 ~ +1372 degree Celsius to measureing in first step. After some time User hope to expandable the functions of this Starter Kit to output control the Harsh enviornment.

Users can select EX9065D-M to output control the Alam warning or turn-off the Switch/ Valve/ Breaker for Safty situation during the Sensors sense value Higher/ Lower the setting value.

Also, EX9018-M have 8 channels for Input value by Sensors that's mean EX9065D-M can output control 5* Alam or turn-off the Switch/ Valve/ Breaker for safety situation during the Sensors sense value Higher/ Lower the setting value.

Note:

1. The Starter Kit App(i OS/ Android) will bundle the App w/ Control Functions of EX9065D-M for Users' Expandable requirement when Users buy EX9065D-M .

Universal I/O Controller (I IOT App & Cloud solution)

Wire Connection & Pin Assignment of Functions

Expandable :

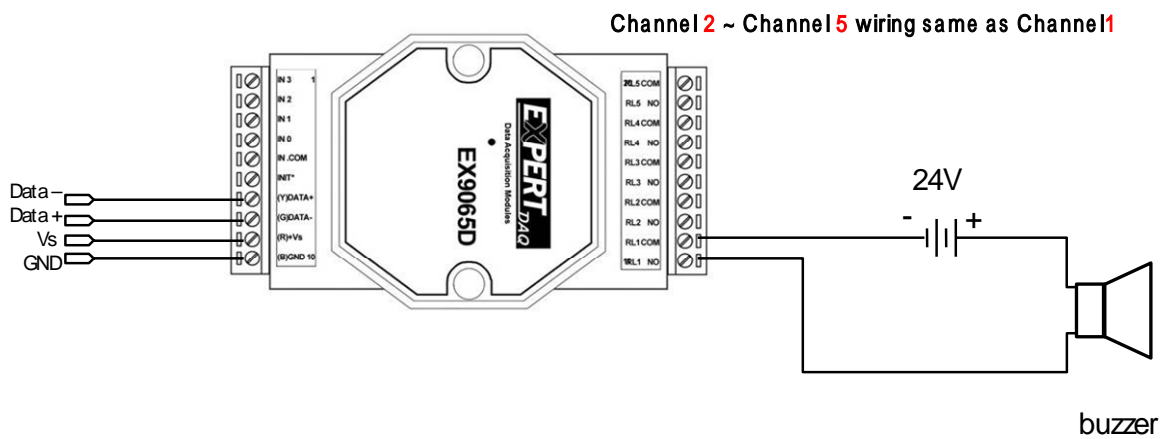


Fig. 7-7

(EX9018-M + EX9486CW-MTCP+ EX9065D-M)

The Expandble functions of App functions:

1. Setting/ Configuring the EX9018-M 8 channel input range of Temperature Value of K Sensor Type of Value to meet environment required by App.
2. If it Higher than the Setting Value then enable the User to e-mail out to Supervisor by App or receive the e-mail from the existed environment by Cloud Server. And also User can output control the Alam warning or turn-off the Switch/ Valve/ Breaker for relative 5 channel in Safty situation during the Sensors sense value Higher than the setting value (EX9018M Input Channel 1 for EX9065D-M Output Channel 1 and EX9018M Input Channel 2 for EX9065D-M Output Channel 2 and EX9018M Input Channel 3 for EX9065D-M Output Channel 3 and EX9018M Input Channel 4 for EX9065D-M Output Channel 4 and EX9018M Input Channel 5 for EX9065D-M Output Channel 5).
3. If it Lower than the Setting Value then enable the User to e-mail out to Supervisor by App or receive the e-mail from the existed environment by Cloud Server. And also User can output control the Alam warning or turn-off the Switch/ Valve/ Breaker for relative 5 channel in Safty situation during the Sensors sense value Lower than the setting value (EX9018M Input Channel 1 for EX9065D-M Output Channel 1 and EX9018M Input Channel 2 for EX9065D-M Output Channel 2 and EX9018M Input Channel 3 for EX9065D-M Output Channel 3 and EX9018M Input Channel 4 for EX9065D-M Output Channel 4 and EX9018M Input Channel 5 for EX9065D-M Output Channel 5).
4. When read the Value between the Setting Value then record it every time within 24Hrs .



Universal I/O Controller

(I IOT App & Cloud solution)

5. Average and Record the read Value after 24Hrs. Also User will receive the e-mail with all of reading data after 24Hrs.

Note :

1. User should be download the App of Expandble Functions for Expandble and the step & operations same as above mentions
2. User can select the Module name for Expandble after you download the App with Expandble func.