ADAM-6024 12 channel Universal Input/Output Module User's Manual

ADAM-6024 12 channel Universal Input/Output Module

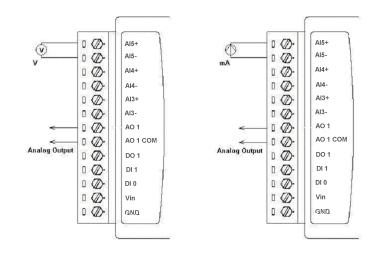
The ADAM-6024 is a 12 channel Universal Input/Output module. There are six analog input, two analog output, two digital input and two digital output channels. The analog input channels is 16-bit, universal signal accepted design. It provides programmable input ranges on all channels. It accepts various analog inputs +/-10V, 0~20mA and 4~20mA. The analog output channel is 12 bit with 0~10V, 0~20mA and 4~20mA acceptable input type. Each analog channel is allowed to configure an individual range for several applications.

ADAM-6024



Fig. 1 ADAM-6024 Drawing

Application Wiring





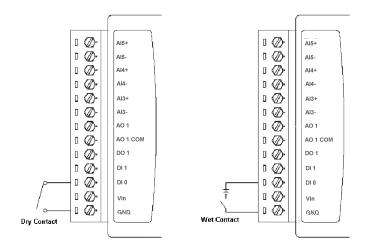


Fig. 3 Digital Input Wiring Diagram

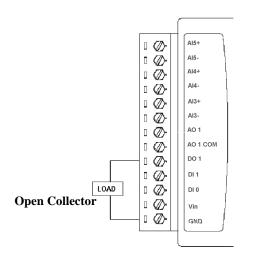
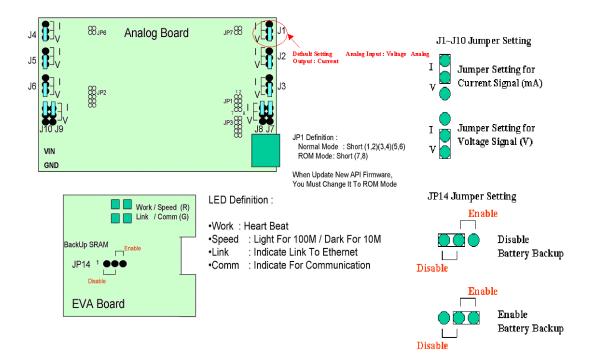


Fig. 4 Digital Output Wiring Diagram

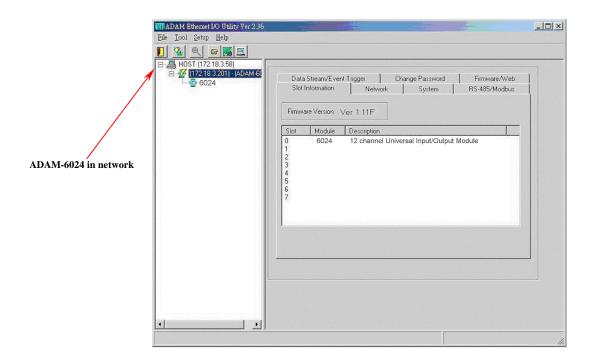
Jumper Setting



Note : If user want to re-configure the analog input/output signal type, not only change the setting in the utility software, but also the hardware jumper setting need to be changed.

Operation Interface

Open the ADAM Ethernet IO Utility Software, the software tool will auto-scan the ADAM Ethernet module through the network. Clicking the "6024" in the system tree of left dialog block,

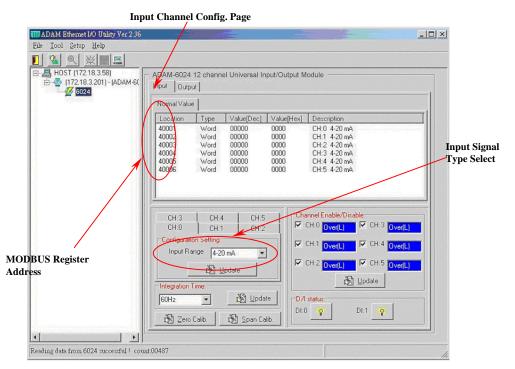


Clicking the "6024" in the system tree of left dialog block to go to ADAM-6024 configuration page. In this page, user can configure the input channel, output channel.

| -월 HOST (172.18.3.58) - • • • • • (172.18.3.201) - (ADAM-60 | ADAM-6024 12 channel Universal Input/Output Module | | | |
|--|--|--|-------|-------|
| 6024 6024 | Normal Value | -1 | | |
| | Location Type Value[Dec] Value[Hex] Description | [] | | |
| | 40001 Word 00000 0000 CH:0 4-20 mA 40002 Word 00000 0000 CH:1 4-20 mA 40003 Word 00000 0000 CH:2 4-20 mA | | | |
| | 40004 Word 00000 0000 CH:3 4-20 mA 40005 Word 00000 0000 CH:4 4-20 mA 40006 Word 00000 0000 CH:5 4-20 mA | | Word | Block |
| | / Norma | | Red | Gree |
| | Low A | State I have been been been been been been been be | White | Blue |
| | | larm | | |
| | Low A CH:3 CH:4 CH:5 CH:0 CH:1 CH:2 | larm | White | Blue |
| | CH:3 CH:4 CH:5 CH:0 CH:1 CH:2 Configuration Setting: CH:1 CH:2 Input Range: 4.20 mA | larm | White | Blue |
| | CH:3 CH:4 CH:5 CH:0 CH:1 CH:2 Configuration Setting: Input Range: 4.20 mA Input Range: 4.20 mA Imput Range: 4.20 mA Imput Range: 4.20 mA | larm | White | Blue |
| | CH:3 CH:4 CH:5 CH:0 CH:1 CH:2 Configuration Setting: Input Range: 4:20 mA Image: 4:20 mA Imput Range: 14:20 mA Image: 14:20 mA Image: 14:20 mA Imput Range: 14:20 mA Image: 14:20 mA Image: 14:20 mA Imput Range: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image: 14:20 mA Image | larm | White | Blue |
| | CH:3 CH:4 CH:5 CH:0 CH:1 CH:2 Configuration Setting Input Range: 4:20 mA Input Range: 4:20 mA Imput Range: 4:20 mA Imput CH:2 CH:2 CH:1 CH:4 Over(L) Imput CH:3 Over(L) Imput Range: 4:20 mA Imput CH:3 Imput Range: | larm | White | Blue |

Input Channel Configuration Page :

In ADAM-6024 input channel configuration page, user can enable the input channel, select the input signal type and select the DI status. ADAM-6024 also support MODBUS/RTU protocol, user can see the detail MODBUS address register number for each channel in this page. It can be a very important reference for communication work.



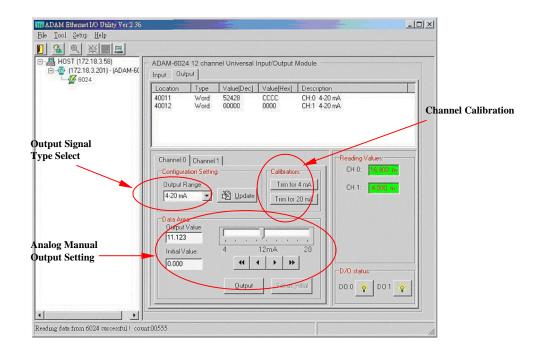
ADAM-6024 input channel configuration also support Zero and Span calibration function. Clicking the "Zero Calib" and "Span Calib" bottom to go to the calibration dialog block, user can set the initial zero value and span range then click the "Execute" bottom to proceed the channel calibration work. Please refer the following pictures for operation guideline.

| ADAM Ethemet I/O Utility Ver 2,36 File Tool Setup Help | | | -0 |
|---|--|--|--------------------------|
| | | | |
| HOST (172.18.3.58) | ADAM-6024 12 channel Universal Input/ Input Output | Output Module | |
| and the second | Normal Value | | |
| | | lue[Hex] Description | |
| | 40001 Word 00000 000 40002 Word 00000 000 40003 Word 00000 000 | 00 CH:1 4-20 mA | |
| | 4-6024 Calibration: | | |
| | Please Apply 0.0 mA to the channel 0 of | te 👷 Egit | |
| | Input Range: 4-20 mA | CH:1 Over(L) I CH:2 Over(L) I CH:2 <u>Over(L) Update Update </u> | and a state of the state |
| Ň | 60Hz | D/I status: | |
| Å | 📓 Zero Calib. 🕅 Span Calib. | | |
| k | 🚯 Zero Calib. 🚯 Span Calib. | | |

| HOST (7216320) ■ HOST (7216320) ■ 0 (71216320) - WOAM 65 2 em/s | ADSM-8024 12 strennel Universal Insul/Output Module Net [OVput] | | | | |
|--|---|--------------------|--------------|--------------|--|
| | Noma/Value | | | | |
| | Location | Line | 1.Value[Dec] | Verifiei | Crecopter |
| | 40001 40002 40001 | Wind Wind | 00000 | 0000 0000 | CRU 430.mA CH 1 430.mA CR 2 430.mA |
| AL2/68 | | | | | |
| - 24 | Callinhos - Filinia Apple | | w nate the | airthirtís a | uctuar . |
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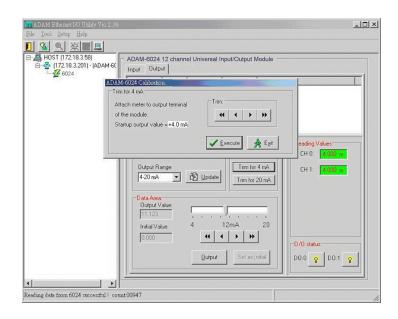
Output Channel Configuration Page :

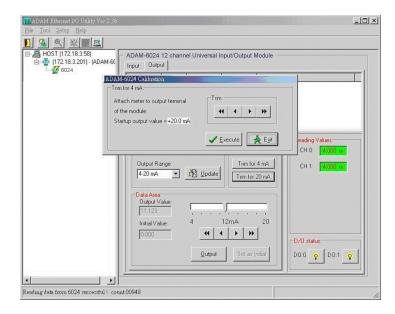
For output channel configuration, there are two analog output channel in ADAM-6024. The configuration for output channel is quite similar as input configuration. User can easily to finish the configuration with the friendly operating interface of ADAM-6024 utility software.



User can use "Data Area" to setup the analog output to send a specific value for such kind application. This function can also be controlled with MODBUS/TCP protocol through Ethernet network for HMI/SCADA application.

For calibrating the analog output channel, user can use external certificated signal measured device as calibrator then use the "Trim for 4mA" and "Trim for 20mA" calibrating function to fine tuning the channel output signal for calibration requirement.





MODBUS TCP/UDP

MODBUS functions address mapping

For Coils

| Address | Remarks |
|-------------|--|
| 10001 | DI 0 status |
| 10002 | DI 1 status |
| 10003~10016 | Reserved (for those reserved area, there will be no effect |
| | if you set it) |
| 10017 | DO 0 status |
| 10018 | DO 1 status |
| 10019~10128 | Reserved |

For registers

| Address | Remarks |
|---------------|---|
| 40001 | AI 0 value |
| 40002 | AI 1 value |
| 40003 | AI 2 value |
| 40004 | AI 3 value |
| 40005 | AI 4 value |
| 40006 | AI 5 value |
| 40007~40010 | Reserved |
| 40011 | AO 0 value |
| 40012 | AO 1 value |
| 40013~40020 | Reserved |
| 40021 | AI 0 status (0: normal; 1: over high; 2: over low; 3: |
| | invalid calibration) |
| 40022 | AI 1 status |
| 40023 | AI 2 status |
| 40024 | AI 3 status |
| 40025 | AI 4 status |
| 40026 | AI 5 status |
| 40027~40064 | Reserved |
| | Not support |
| 10000~(9999)~ | MODBUS ASCII command data area |