# JX CONFIGURATOR SOFTWARE
## (Model: JXCON)

# Users Manual

**Applicable Software Version 13.XX**

# CONTENTS

# 1. GENERAL

In this manual, user is assumed that he/she is already familiar with operating Windows XP, 7, 8 or 10 and terminology used in these operating systems.

If you need to know about particular operation or terminology on Windows, please refer to manuals provided with the system.

Display images shown in this manual may change in detail when the software version is updated.

## 1.1 FEATURES OF JXCON

The model JXCON is used to help you verify, program, modify, and manage the parameters of our Universal Transmitters, Field-Programmable Signal Conditioners, and PC-Programmable Signal Conditioners.

Refer to Section 4.3. for applicable signal conditioner models and parameters.

General functions of the JXCON are as follows:

**• Upload...**

Parameters of a signal conditioner can be uploaded and displayed on the PC.

**• Save...**

Parameters displayed on the PC can be saved as separate file.

**• Open...**

A file saved as in the above can be opened on the PC.

**• Creating and Modifying Parameters**

Parameters displayed on the PC can be changed.
New parameter setting can be created.

**• Check...**

You can verify that all parameters displayed on the PC are within allowable range.

**• Download...**

Parameters displayed on the PC can be copied to a signal conditioner.

## 1.2 HARDWARE REQUIREMENTS

- DOS/V compatible PC with Windows XP, Windows 7, Windows 8 or Windows 10 appropriately installed.
  Available hard disk are: 20 MB
  Serial port: COM1 to COM16
- PC configurator cable
  Field-Programmable Signal Conditioners: Model COP-UM
  PC-Programmable Signal Conditioners: Model MCN-CON or COP-US

## 1.3 REVISION HISTORY

This is the JX Configurator Users Manual Ver. 13.XX (XX indicates version number). Confirm the version of JX-CON, displayed on the lower right of the program starting screen.

### 1.3.1 V03.01

(1) Models *JF, *JFK, *JPA, *JS, 18JN, *JDN, *JDL and JB can be programmed.

(2) Models M8XV, M8XT, M8XR and M8XM added.

(3) Model JUA function upgrade adapted; alarm deadband selectable in engineering unit.

(4) The following inconveniences in the previous versions were corrected:

- Temperature conversion inaccuracies may have occurred when converting twice.
- When conducting a parameter check both scale 0% and 100% fields were highlighted even though one of them was in error.
- Data comparison check error may have occurred in downloading linearization data.
- When selecting a new model number, parameters of the previously selected one may have remained in setting fields.
- Unused items may have shown as “error” in uploading.
- Linerearization data may not have uploaded when the linearization option was not specified on the currently displayed setting.

### 1.3.2 V03.02

(1) DC output range for Mini-M Series (models M2XV, M2XT, M2XR, M2XM, M2XF) are now fully programmable including changing the output type (coarse range).

### 1.3.3 V03.03

(1) Model JUA: negative scaling value can be entered for the input types mV-0 or mv-Z.

### 1.3.4 V03.04

(1) The following inconveniences in the previous versions were corrected:

- Model JUA: DIP switch indication for 2-10mA were not correct.
- Temperature units (JUA, JT, JR, JDL, M2XT, M2XR, M8XT, M8XR): Temperature values uploaded initially at JXCON startup may not be correct when the temperature unit was set to °F or K.
- Cold junction compensation (JUA, M2XT, M8XT): the temperature unit for the CJC was not changed accordingly even though the setting had been changed.
- Model M2XF: linearization data may not have been uploaded correctly.

### 1.3.5 V03.05

(1) Models JPAD, JRPD, JPRD, JPSM and JFRD: The zero frequency range value will be limited within -100 kHz to 99.99 kHz; while the span frequency range value will be limited within 0.1 Hz to 100 kHz.

(2) Models JPRD, JPSM: The output frequency range value will be limited within 0.1 Hz to 100 kHz.

(3) Pico-M (M8) Series: the DAC output type will be fixed to “2” even when the output type is changed.

### 1.3.6 V03.06

(1) Temperature unit indication: °C –> deg.C °F –> deg.F
Other inconveniences related to the above temperature unit indication were corrected.

(2) The JXCON, installed in a language environment other than English, may have been shut down by a system error, but the error was corrected.

### 1.3.7 V04.01

(1) Models M2XU and M2XUM were added.

#### 1.3.8 V04.02

(1) The following inconveniences in the previous versions were corrected:

- Model JPA: Frequency range may not have been changed correctly.
- Model JPA: The JXCON may have been shutdown if a parameter check is performed immediately after the parameter upload.
- Model JPA: Frequency unit may not have been indicated correctly in I/O Check view.
- Models JPAD, JRPD, JFRD: Effective number of digits will be fixed to 4, so that 0.0001 setting is not valid.

(2) Models M2XU/M2XUM: Linearization table will check the setting range is appropriate.

#### 1.3.9 V04.03

(1) The following inconveniences in the previous versions were corrected:

- V3.05, V3.06, V4.01 may not have upload the linearization table for the M2XF to the LSD.
- Model JUA: DIP Switch indication was not correct.

(2) M2X and M8X Series: Check function to match the model No. set on the software and the actual unit during download will be added.

(3) Tag name will be left unspecified.

(4) Parameters will not be changed during monitoring on the I/O Check view.

#### 1.3.10 V04.04

(1) Model M2XUM: Modbus node address will be set in HEX.

(2) Models JFTS1, JFTS2: Certain items may not have been indicated correctly.

#### 1.3.11 V04.05

(1) Models M2XPA and M2XPA2 were added. (Details in Section 6)

(2) COM1 through COM4 will be supported.

#### 1.3.12 V05.01

(1) Models M8XV2, M8XT2, M8XR2 and M8XM2 were added. (Details in Section 7)

(2) Windows XP will be supported.

#### 1.3.13 V06.01

(1) Model M2XT2 added.

#### 1.3.14 V06.02

(1) The following inconveniences in the previous versions were corrected:

- Negative range for 0% and 100% scaled range (ITEM 14 / ITEM 15) was not selectable for the models JV, JFX, JFT1, JFT2, JFT3, JFT4, JFT5 and JFT6.

#### 1.3.15 V07.01

(1) Model M2XRP2 added.

(2) Check and download function will be usable for all models with linearization table specified in engineering unit (Linearizer, T/C, RTD).

#### 1.3.16 V07.02

(1) Bug fixed with the JXCON V04.05 or higher versions: Downloading to the JDL results in data matching errors.

#### 1.3.17 V07.03

(1) Bug fixed: Downloading with the JT, JR and JDL results in data matching errors under specific conditions: Scaling 0%/100% values as default setting, Temperature unit set to K.

–> Data conversion range in case of the temperature unit change is adjusted within the selectable range.

#### 1.3.18 V08.05

(1) Models JB2, M2XV2, M2XR2, M2XM2 and M2XF2 added.

(2) The following inconveniences in the previous versions were corrected:

- M2XRP2 minimum span was not specifiable with the input frequency range 0 to 1 Hz.

#### 1.3.19 V09.01

(1) Model M2XPA3 added.

#### 1.3.20 V09.02

(1) Bug fixed: M8XV2, M8XT2, M8XR2, M8XM2: The input type (ITEM 10) may be incorrectly indicated when the information is uploaded from the hardware units.

(2) Bug fixed: M8XT2, M8XR2: Setting created on the JXCON may not be correctly downloded to the hardware unit.

#### 1.3.21 V10.01

(1) Models JPA2, JPQ2, JRP2, JRQ2, JPR2, JPS3, JFR2, JTY2 added.

(2) JB, JB2 Item 21: Track back –> Trace back

#### 1.3.22 V11.01

(1) Model JB2/A added.

#### 1.3.23 V11.02

(1) Bug Fixed: JF Item 11: May not read/write correctly the parameter of “Square root extraction for input X1.”

#### 1.3.24 V12.01

(1) Models JAPD2 and JARP2 added.

#### 1.3.25 V12.08

(1) Bug fixed: JPA, JS, JDL, M2XU, M2XUM, M2XPA, M2XPA2, M2XRP2, M8XV2, M8XT2, M8XR2, M8XM2: May not read the linearization data when opening the saved file with OPEN button after setting linearization data and clicking SAVE button.

#### 1.3.26 V12.09

(1) Model WJPAD2 added.

(2) Bug fixed: JUA: When setpoint for Alarm Output (Item 26, 29) and hysteresis for Alarm Output (Item 27, 30) are set with setting unit for alarm (Item 38, 39) to engineering unit and then after performing ‘Saving Parameter as a File’, ‘Reading Parameters from a File’ is performed to the file, the value for setpoint for Alarm Output (Item 26, 29) and hysteresis for Alarm Output (Item 27, 30) is changed.

(3) Bug fixed: M2XU and M2XUM: The error message ‘empty item’ is displayed when download is performed with correct setting vlue.

(4) Windows 7 (32 bit, 64 bit) and Windows 8 (32 bit, 64 bit) are supported.

#### 1.3.27 V13.02

(1) Serial ports are changed to select up to COM16.

(2) Windows 10 (32 bit, 64 bit) is supported.

(3) The software can be downloaded from our web site and installed.

(4) ‘RB-6 Pt 100_97’ added to RTD type (item 10) for RTD transmitters (model: xJR).

(5) Bug fixed: Incorrect display in Item10 when choosing JV, JT, JR, JFT, JFX, JF, JFK, JDL, JB, 18JN, or 18JDN after choosing JM, 10JRE, JPA or JS.

#### 1.3.28 V13.03

(1) Fixed the problem that the process may not be terminated by clicking EXIT button or Close [X] button.

(2) JF and JFX: Modified the units for gain, bias, and input used in the equations.

(3) M2XU, M2XUM, and M8XT2/M8XT3: Changed the default setting of the CJC SW from ‘OFF’ to ‘ON’.

#### 1.3.29 V13.04

Fixed the problem that the value of input frequency (Item06) was not displayed correctly when using the M2XRP2.

#### 1.3.30 V13.05

Bug fixed: Minimum span check processing for scaling 0% value (Item14) and scaling 100% value (Item15) when using xJR is fixed. For details of minimum span, refer to specifications for each unit.

#### 1.3.31 V13.06

Model 11JDL2 added.

## 1.4 APPLICABLE SIGNAL CONDITIONER MODELS

**Table A. Applicable Field-Programmable Series Signal Conditioners**

| FUNCTION | SERIES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | M-UNIT | M-RACK | F-UNIT | H-UNIT | H-RACK | 10-RACK | 18(K)-RACK | 11-RACK | W-UNIT | W-RACK |
| DC INPUT (ISOLATOR) | JV | 7JV | FJV | HJV | GJV | 10JV | 18(K)JV | 11JV | WJV | VJV |
| THERMOCOUPLE | JT | 7JT | FJT | HJT | GJT | 10JT | 18(K)JT | 11JT | WJT | VJT |
| 3-wire RTD | JR | 7JR | FJR | HJR | GJR | 10JR | 18(K)JR | 11JR | WJR | VJR |
| 4-wire RTD | --- | --- | --- | --- | --- | 10JRE | --- | --- | --- | --- |
| POTENTIOMETER | JM | 7JM | FJM | HJM | GJM | 10JM | 18(K)JM | 11JM | WJM | VJM |
| FREQUENCY | JPA | 7JPA | FJPA | HJPA | GJPA | 10JPA | 18(K)JPA | 11JPA | WJPA | VJPA |
| SELF-SYNCH | JS | 7JS | --- | --- | --- | --- | --- | --- | WJS | VJS |
| SQUARE ROOT EXTRACTOR | --- | --- | --- | --- | --- | --- | 18JN | --- | --- | --- |
| CURRENT LOOP SUPPLY | --- | --- | --- | --- | --- | --- | 18(K)JDN | --- | --- | --- |
| CURRENT LOOP SUPPLY | JDL | 7JDL | FJDL | HJDL | GJDL | 10JDL | 18(K)JDL | 11JDLX | --- | --- |
| LINEARIZER | JFX | 7JFX | FJFX | HJFX | GJFX | 10JFX | 18JFX | 11JFX | WJFX | VJFX |
| 100-point LINEARIZER | JFX1 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2-input MATH | JF | 7JF | FJF | HJF | GJF | 10JF | 18JF | 11JF | WJF | VJF |
| 3-input MATH | JFK | 7JFK | --- | --- | --- | --- | --- | 11JFK | WJFK | VJFK |
| FILTER/LAG, 8-point | JFT | 7JFT | FJFT | HJFT | GJFT | 10JFT | 18JFT | 11JFT | WJFT | VJFT |
| FILTER/LAG, 100-point | JFTS | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ANALOG BACKUP | JB/JB2 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| FREQUENCY TO DC | JPAD/ JPA2 | --- | --- | --- | --- | --- | --- | --- | WJPAD/ WJPAD2 | --- |
| PULSE ACCUMULATOR | JPQD/ JPQ2 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ENCODER SPEED | JRPD/ JRP2 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ENCODER POSITION | JRQD/ JRQ2 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DC TO 2-PHASE PULSE | JARP | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DC TO FREQUENCY | JAPD | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| PULSE SCALER | JPRD/ JPR2 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| PULSE ADDER | JPSM/ JPS3 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| FREQUENCY SCALER | JFRD/ JFR2 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| PULSE DURATION RECEIVER | JTY2 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| UNIVERSAL TRANSMITTER | JUA | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DC/FREQUENCY CONVERTER | JAPD2 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DC/2-PHASE PULSE CONVERTER | JARP2 | --- | --- | --- | --- | --- | --- | --- | --- | --- |

**Table B. Applicable PC Programmable Series Signal Conditioners**

| FUNCTION | SERIES | |
|---|---|---|
| | Mini-M | Pico-M |
| DC INPUT | M2XV/M2XV2 | M8XV / M8XV1 / M8XV2 / M8XV3 |
| THERMOCOUPLE | M2XT/M2XT2 | M8XT / M8XT1 / M8XT2 / M8XT3 |
| RTD | M2XR/M2XR2 | M8XR / M8XR1 / M8XR2 / M8XR3 |
| POTENTIOMETER | M2XM/M2XM2 | M8XM / M8XM1 / M8XM2 / M8XM3 |
| LINEARIZER | M2XF/M2XF2 | --- |
| PULSE INPUT | M2XPA / M2XPA2 / M2XPA3 | --- |
| ENCODER SPEED INPUT | M2XRP2 | --- |

# 2. GETTING STARTED

## 2.1 INSTALLING THE JXCON

To install the JXCON, download the compressed archive file from our web site.

Uncompress the archive file and execute the 'setup.exe' file. Follow the instruction displayed then installing is completed.

**Note**
To re-install the program, follow the uninstall procedure explained in section 2.2 before install the program again.

## 2.2 DELETING THE PROGRAM

For Windows XP

(1) Click [ Start ] –> [ Control Panel ].
(2) Click [ Add or Remove Programs ].
(3) Choose [JXCON] in the list of installed programs.
(4) Click [ Change/Remove ].
(5) Click [ OK ].
(6) Follow the message, choose [ Remove ] option and click [ Next ]. The files related to JXCON are deleted.

For Windows 7, 8

(1) For Windows 7, Click [ Start ] –> [ Control Panel ].
For Windows 8, move the cursor to desktop of the Windows, press the [ Win ] + [ X ] key to open the [ Control Panel ].
(2) Click [ Programs and Features ].
(3) Choose [JXCON] in the list of installed programs.
(4) Click [ Uninstall or change a program ].
(5) Click [ OK ].
(6) Follow the message, choose [ Remove ] option and click [ Next ]. The files related to JXCON are deleted.

For Windows 10

(1) Click [ Start ] –> [ Settings ].
(2) Click [ System ].
(3) Click [ Apps & features ].
(4) Choose [JXCON] in the list of [ Apps & features ], click [ Uninstall ]. The files related to JXCON are deleted.

## 2.3 STARTING / EXIT THE JXCON

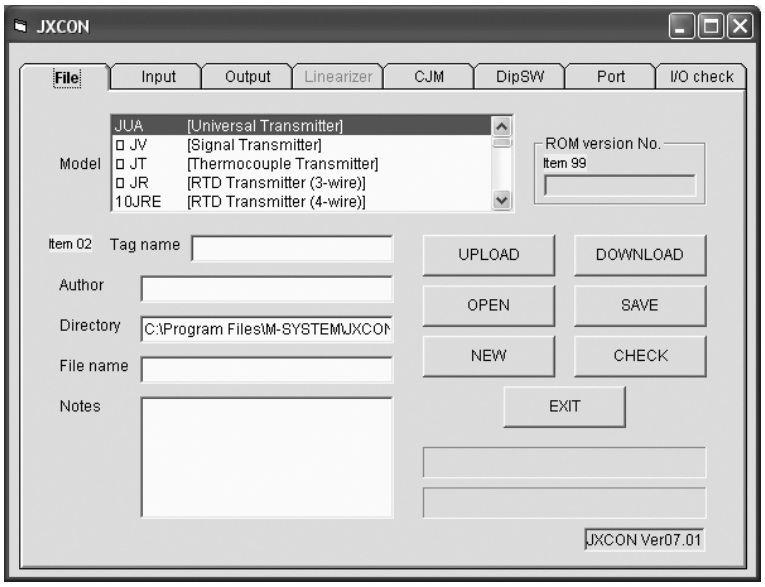
Display images shown in this manual may change in detail when the software version is updated.

### 2.3.1 STARTING THE JXCON

Press Start on the task bar (start button for Windows 8) and choose “JXCON” under “JXCON” folder from Program menu. The main view appears on the screen as shown below.

For Windows 10

Select [ Start menu ] –> [ All spps ] –> [ JXCON ]




**Note**
All fields except [ Model ] and [ Directory ] are blank when you open the main view.

### 2.3.2 EXIT THE JXCON

The JXCON program can be closed either of the following method.

- Click EXIT button at the right bottom of the view.
- Click Close [X] button at the right end of the title bar.

# 3. HOW TO USE THE JXCON

Display images shown in this manual may change in detail when the software version is updated.

## 3.1 READING PARAMETERS OF A SIGNAL CONDITIONER ON PC (UPLOAD...)

(1) Confirm that the signal conditioner is correctly connected to the PC.
(2) Start up the JXCON program.
(3) Choose Model No. of the signal conditioner from a list on the screen.
(4) Check that Model No. matches that of the signal conditioner and that it is firmly connected.
(5) Press < UPLOAD > and a series of messages for confirmation appears on the screen. Follow instructions and click < Yes >. The JXCON starts uploading.
(6) Uploading complete, the JXCON displays a message box.
(7) Click < OK > to exit.

For saving the uploaded information as a file, go to 3.2. For copying it to another signal conditioner, go to 3.6.

## 3.2 SAVING PARAMETERS AS A FILE (SAVE...)

(1) Upload parameters from a signal conditioner according to 3.1., or read a file according to 3.3. You may create a new set of parameters, or modify one of uploaded according to 3.4.
You may want to input comments in [ Author ] or [ Notes ] field to help you later identify file contents. These comments do not affect signal conditioner parameters.
Key in comments in [ Tag name ] field. The JXCON may not be able to download if the field is left blank.

(2) Press < SAVE > and a dialog box to specify a file name appears on the screen. Files are saved in “data” folder under “JXCON” folder as default. You can save them in this folder or in a removable disk such like a floppy.
Do not use “system” folder under “JXCON” folder to save a file.

**Warning !**
**The “system” folder contains a set of files controlling the JXCON system. DO NOT MODIFY, MOVE, or DELETE them.**

(3) Choose a directory and key in a file name in [ File name (N) ]. Check the file name and directory again and click < Save (S) >.

(4) Saving complete, the JXCON displays a message box. Click < OK > to exit.

## 3.3 READING PARAMETERS FROM A FILE (OPEN...)

(1) Confirm that the signal conditioner is correctly connected to the PC.
(2) Start up the JXCON program.
(3) Choose Model No. of the signal conditioner from a list on the screen.
(4) Press < OPEN > and a dialog box to specify the directory where the file is stored. The “data” folder under “JXCON” folder is specified as default. Choose a file name. Check the file name and directory again and click < Open (O) >. The parameters in the file are displayed.
(5) For saving the information as a file, go to 3.2. For modifying it before saving, go to 3.4. For copying it to another signal conditioner, go to 3.6.

## 3.4 CREATING OR MODIFYING PARAMETERS

(1) Choose Model No. of the signal conditioner from a list on the screen.
(2) Click a field of parameter you want to modify. Type in a value with a keyboard or choose a button with a mouse. (The fields for those items which are unavailable to modify are greyed out.)
(3) To change from °C to °F or % to units, indicate first the measurand, and after, input the value.
(4) Use < Check > button to confirm that the new parameter is within allowable range.
(5) If the JXCON finds errors, such items are highlighted with different background color. Change to a proper setting.

**Note**
The background color returns to normal only after < Check > is executed again and the new setting is confirmed.

## 3.5 CHECKING PARAMETERS (CHECK...)

(1) Press < Check > and the JXCON checks all parameters are within allowable range. If errors are found, such items are highlighted with different background color.

(2) Change all highlighted items to proper settings.

## 3.6 WRITING PARAMETERS TO A SIGNAL CONDITIONER (DOWNLOAD...)

(1) Upload parameters from a signal conditioner according to 3.1., or read a file according to 3.3. You may create a new set of parameters, or modify one of uploaded according to 3.4.

(2) Press < DOWNLOAD > and a dialog box to tell you to confirm the connected signal conditioner.

(3) Check that the signal conditioner is correctly connected and click < OK >. The program automatically runs Checking routine before starting downloading. If any item is found as error, such items are highlighted with different background color, and downloading is interrupted. Correct them and restart downsloading.
A bargraph is displayed on the screen to show the progress of downloading.

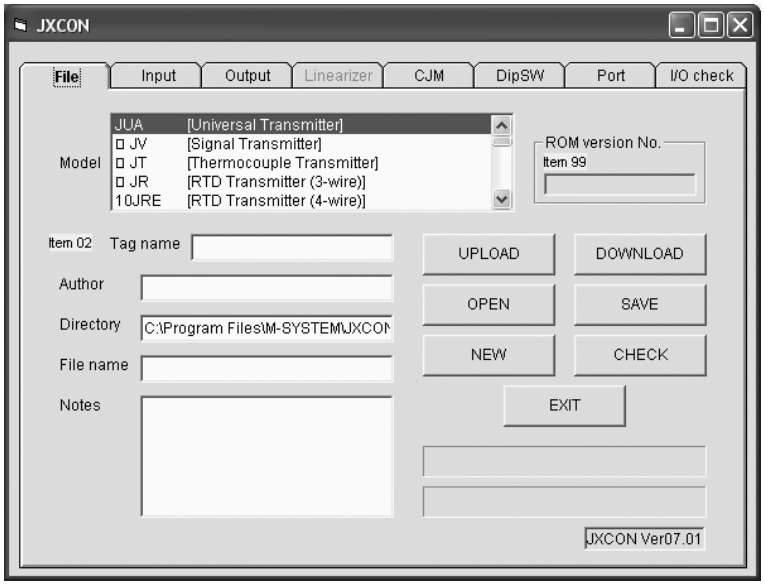
(4) Downloading complete, the JXCON displays a message box. Click < OK > to exit.

# 4. VIEWS AND OPERATIONS

## 4.1 VIEWS

The JXCON program consists of several tabs each of which determines a function of a signal conditioner.

Some tabs are greyed out and unavailable according to the selected model and the chosen parameters.




**■ TABS COMMON TO ALL MODELS**

[ File ] Displaying and setting model No. and file names. Command buttons are placed.

[ Input ] Parameters regarding input are displayed and specified.
Configuration varies according to model No.

[ Output ] Parameters regarding output are displayed and specified.
Configuration varies according to model No.

[ Port ] Choosing a communication port.

[ I/O check ] Displaying and setting simulating output.
Input signal can be displayed in a regular cycle.

**■ TABS PARTICULAR TO CERTAIN MODELS**

[ Linearizer ] Displaying and setting a linearization data table.
Available only for those models with linearization function and when the function is selected.

[ TC TBL ] Displaying and setting a user's thermocouple table.
Displayed only when the input type "User's TC" is selected.

[ RTD TBL ] Displaying and setting a user's RTD table.
Displayed only when the input type "User's RTD" is selected.

[ CJM ] Setting a compensating value for the reference temperature when the CJM (temperature sensor for cold junction compensation) is replaced with a new one.
Not usable for model JT series Thermocouple Transmitters.

[ DipSW ] Displaying the current DIP SW setting for model JUA.

[ Filter ] Displaying and setting type of filter and parameters.
Available only for filter/lag transmitters.

[ Modbus ] Displaying and setting the Modbus communication protocol.
Available only for those models with the Modbus communication capability.

[ Alarm ] Displaying and setting alarm setpoints and other parameters.

## 4.2 CONFIGURATION OF EACH TAB AND FUNCTIONS

The JXCON program consists of several tabs each of which determines a function of a signal conditioner.

Some tabs are greyed out and unavailable according to the selected model and the chosen parameters.

[ File ] and [ Port ] tabs are explained in this section. Other tabs are explained according to model No. in 4.3.

### 4.2.1 [ File ]

| | |
|---|---|
| Model | Scroll the list of signal type and choose. |
| Tag name | Type in alphabets and/or numbers. 10 characters max. |
| Author | Type in creator name. |
| Directory | Type in directory name where parameters are saved in the PC. |
| File name | Type in file name when parameters are saved in the PC. |
| Notes | Users can type memos. |
| ROM version No. | ROM version No. of a signal conditioner connected to the PC is indicated.<br>(Contents of Author and File name do not affect parameters set to a signal conditioner.) |

| | |
|---|---|
| < UPLOAD > button | Starting upload. |
| < DOWNLOAD > button | Starting download. |
| < OPEN > button | Opening a specified file and display its parameters. |
| < SAVE > button | Saving the parameters on the display as a file. |
| < NEW > button | Removing the parameters on the display to create a new setting. |
| < CHECK > button | Checking that the parameters on the display are within allowable range. |
| < EXIT > button | Ending the JXCON program. |

### 4.2.2 [ Port ]

< COM1 > through < COM16 > buttons are on this tab. Choose a port of the PC to which a signal conditioner is connected.

## 4.3 TABS PARTICULAR TO EACH SIGNAL CONDITIONER MODEL

### 4.3.1 UNIVERSAL TRANSMITTER (model JUA)

| TAB | FIELD | COMMENTS | PU-2A | |
|---|---|---|---|---|
| | | | GROUP | ITEM |
| File | | See 4.2.1. | | |
| Input | Input type | Click Drop-down arrow to call a list and choose. | 01 | 10 |
| | Scale of 0% value | Input at 0% in engineering unit | | 14 |
| | Scale of 100% value | Input at 100% in engineering unit | | 15 |
| | Temperature unit | Click a button. | | 21 |
| | Linearization | | | 23 |
| | Burnout | | | 24 |
| Output | Output type | Click Drop-down arrow to call a list and choose. | 01 | 11 |
| | Output 0% value | Output at 0% in engineering unit | | 12 |
| | Output 100% value | Output at 100% in engineering unit | | 13 |
| | Fine zero adjustment | Unit: %, two decimals | | 19 |
| | Fine span adjustment | | | 20 |
| | Alarm-1 | Click a button. | | 25 |
| | Setting unit-1 | | | 38 |
| | Alarm-1 setpoint | Unit: % or engineering unit, within -15 – +115% | | 26 |
| | Alarm-1 hysteresis | Unit: % or engineering unit, within 0 – 100% | | 27 |
| | Alarm-1 ON delay time | Unit: sec., within 0 – 60 sec. | | 80 |
| | Alarm-1 power ON timer | Unit: sec., within 2 – 60 sec. | | 82 |
| | Alarm-1 energizing coil | Click a button. | | 84 |
| | Alarm-2 | Click a button. | | 28 |
| | Setting unit-2 | | | 39 |
| | Alarm-2 setpoint | Unit: % or engineering unit, within -15 – +115% | | 29 |
| | Alarm-2 hysteresis | Unit: % or engineering unit, within 0 – 100% | | 30 |
| | Alarm-2 ON delay time | Unit: sec., within 0 – 60 sec. | | 81 |
| | Alarm-2 power ON timer | Unit: sec., within 2 – 60 sec. | | 83 |
| | Alarm-2 energizing coil | Click a button. | | 85 |
| | I/O characteristics | Click a button. | | 31 |
| Linearizer | 100 points max. | A CSV file (*.csv: comma separated values) can be imported. | 02<br>03 | 00 – 99<br>00 – 99 |
| CJM | Temperature in deg.C | Temperature compensation reference. | 01 | 34 |
| | Voltage | Enter new sensor data when the CJM module is replaced. | | 35 |
| DipSW | | Indicating appropriate switch combinations for each I/O type. Check switch positions. | | |
| Port | | See 4.2.2. | | |
| I/O check | Simulation output setting in % | Enter a value for simulated output. | 01 | 03 |
| | Output monitor in % | Setting value | | |
| | Output temp. value | Display only | | 04 |
| | Input monitor in % | Display only | | 05 |
| | Input monitor | Engineering unit. Display only. | | 06 |
| | Cold junction comp. temp. | Display only | | 07 |

### 4.3.2 FIELD-PROGRAMMABLE SIGNAL CONDITIONERS (Part I)

| TAB | FIELD | COMMENTS | PU-2A | |
|---|---|---|---|---|
| | | | GROUP | ITEM |
| Input | Input type | Click Drop-down arrow to call a list and choose. | 01 | 10 |
| | Linearization | Click a button. | | |
| | Coarse range | Click Drop-down arrow to call a list and choose. | | 11 |
| | Linearization | Click a button. | | |
| | Square root extraction for input X1 | Click a button. | | |
| | Low-end cutout adj. | Unit: %. Choose within 0.00 and 100.00. | | 13 |
| | Scale of 0% value | Input at 0% in engineering unit*1 | | 14 |
| | Input offset angle | Unit: degrees | | |
| | Scale of 100% value | Input at 100% in engineering unit*1 | | 15 |
| | Input range scaling | Unit: degrees | | |
| | Sampling rate modification for irregular pulse input | Number of pulses corresponding to one cycle by the flowmeter | | 18 |
| | Temperature unit<br>Gain K0 | Click Drop-down arrow to call a list and choose.<br>Unit: none. 1.000 = 100% | | 21 |
| | Gain K1 | Unit: none. 1.000 = 100% | | 22 |
| | Gain K2 | Unit: none. 1.000 = 100% | | 23 |
| | Gain K3<br>Bias A0 | Unit: none. 1.000 = 100%<br>Unit: % | | 24 |
| | Bias A0<br>Bias A1 | Unit: %<br>Unit: % | | 25 |
| | Bias A1<br>Bias A2 | Unit: %<br>Unit: % | | 26 |
| | Bias A2<br>Input Low Limit X1 | Unit: %<br>Unit: %. Choose within -25 and +125.00. | | 27 |
| | Bias A3<br>Input Low Limit X2 | Unit: %<br>Unit: %. Choose within -25 and +125.00. | | 28 |
| | Input Low Limit X1<br>Input High Limit X1 | Unit: %. Choose within -25 and +125.00.<br>Unit: %. Choose within -25 and +125.00. | | 29 |
| | Input Low Limit X2<br>Input High Limit X2 | Unit: %. Choose within -25 and +125.00.<br>Unit: %. Choose within -25 and +125.00. | | 30 |
| | Input Low Limit X3 | Unit: %. Choose within -25 and +125.00. | | 31 |
| | Input High Limit X1 | Unit: %. Choose within -25 and +125.00. | | 32 |
| | Input High Limit X2 | Unit: %. Choose within -25 and +125.00. | | 33 |
| | Input High Limit X3 | Unit: %. Choose within -25 and +125.00. | | 34 |
| Output | Fine zero adjustment | Unit: %, two decimals | 01 | 19 |
| | Fine span adjustment | Unit: %, two decimals | | 20 |
| | Manual control mode | Click a button. | | 21 |
| | Transition response | Unit: %/S. Choose within 0.00 and 200.00. | | 22 |
| | Up/down response mode | Click a button. | | 23 |
| | Up/down response time | Unit: %/S. Choose within 0.00 and 200.00. | | 24 |
| | Hi/Lo alarm at cascade control | Click a button. | | 25 |
| | Low alarm setpoint | Unit: % Choose within -25.00 and +125.00. | | 26 |
| | High alarm setpoint | Unit: % Choose within -25.00 and +125.00. | | 27 |
| | Retroactive time period | Unit: sec. Choose within 0.0 and 10.0 sec. | | 28 |
| | Default output at man. control | Unit: % Choose within -25.00 and +125.00. | | 29 |
| | Default output after power failure | Unit: % Choose within -25.00 and +125.00. | | 30 |

| TAB | FIELD | COMMENTS | PU-2A | |
|---|---|---|---|---|
| | | | GROUP | ITEM |
| Filter | Function type | Click Drop-down arrow to call a list and choose. | 01 | 23 |
| | Sampling cycle H | Unit: sec. Choose within 0.1 and 100 sec. | | 24 |
| | No. of samples to be calculated N | Unit: none. See Table 4-1. for selectable range. | | 25 |
| | Time constant T | Unit: sec. See Table 4-1. for selectable range. | | 26 |
| | Max. rate of positive output range CP | Unit: sec. Choose within 0 and 200.0 sec. | | 27 |
| | Max. rate of negative output range CN | Unit: sec. Choose within 0 and 200.0 sec. | | 28 |
| | No. of smallest samples to be cut off L | Unit: none. Choose within 0 and 7. | | 29 |
| | No. of largest samples to be cut off U | Unit: none. Choose within 0 and 7. | | 30 |
| Linearizer | 16 points max. | A CSV file (*.csv: comma separated values) can be imported. | 01 | 60 – 91 |
| | 100 points max. | A CSV file (*.csv: comma separated values) can be imported. | 02<br>03 | 00 – 99<br>00 – 99 |

*1. For RTD transmitter (model: xJR), refer to specification and check the minimum span before setting.

**Table 4-1. Number of samples to be calculated and time constant, programmable range.**

| FIELD | JFT1 | JFTS1 | JFT2 | JFTS2 | JFT3 | JFT4 | JFT6 |
|---|---|---|---|---|---|---|---|
| No. of samples to be calculated N | 1 – 8 | 1 – 100 | 1 – 8 | 1 – 100 | | | 2 – 8 |
| Time constant T (sec.) | | | 0 – 100.0 | 0.1 – 100.0 | 0 – 100.0 | 0 – 100.0 | |

**Table 4-2. Applicable fields according to model No. (Part I)**

| TAB | FIELD | MODEL NO. | | | | | | | PU-2A | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | JT | JR | JV | JFTx | JFX | JM, 10JRE | JFX1, JFTSx | GROUP | ITEM |
| Input | Input type | Y | Y | Y | Y | Y | | Y | 01 | 10 |
| | Linearization | | | | | | Y | | | |
| | Coarse range | | | Y | Y | Y | | | | 11 |
| | Linearization | | | | | | | Y | | |
| | Square root extraction for input X1 | | | | | | | | | |
| | Low-end cutout adj. | | | | | | | | | 13 |
| | Scale of 0% value | Y | Y | Y | Y | Y | | | | 14 |
| | Input offset angle | | | | | | | | | |
| | Scale of 100% value | Y | Y | Y | Y | Y | | | | 15 |
| | Input range scaling | | | | | | | | | |
| | Sampling rate modification for irregular pulse input | | | | | | | | | 18 |
| | Temperature unit | Y | Y | | | | | | | 21 |
| | Gain K0 | | | | | | | | | |
| | Gain K1 | | | | | | | | | 22 |
| | Gain K2 | | | | | | | | | 23 |
| | Gain K3 | | | | | | | | | 24 |
| | Bias A0 | | | | | | | | | |
| | Bias A0 | | | | | | | | | 25 |
| | Bias A1 | | | | | | | | | |
| | Bias A1 | | | | | | | | | 26 |
| | Bias A2 | | | | | | | | | |
| | Bias A2 | | | | | | | | | 27 |
| | Input Low Limit X1 | | | | | | | | | |
| | Bias A3 | | | | | | | | | 28 |
| | Input Low Limit X2 | | | | | | | | | |
| | Input Low Limit X1 | | | | | | | | | 29 |
| | Input High Limit X1 | | | | | | | | | |
| | Input Low Limit X2 | | | | | | | | | 30 |
| | Input High Limit X2 | | | | | | | | | |
| | Input Low Limit X3 | | | | | | | | | 31 |
| | Input High Limit X1 | | | | | | | | | 32 |
| | Input High Limit X2 | | | | | | | | | 33 |
| | Input High Limit X3 | | | | | | | | | 34 |
| Output | Fine zero adjustment | Y | Y | Y | Y | Y | Y | Y | 01 | 19 |
| | Fine span adjustment | Y | Y | Y | Y | Y | Y | Y | | 20 |
| | Manual control mode | | | | | | | | | 21 |
| | Transition response | | | | | | | | | 22 |
| | Up/down response mode | | | | | | | | | 23 |
| | Up/down response time | | | | | | | | | 24 |
| | Hi/Lo alarm at cascade control | | | | | | | | | 25 |
| | Low alarm setpoint | | | | | | | | | 26 |
| | High alarm setpoint | | | | | | | | | 27 |
| | Retroactive time period | | | | | | | | | 28 |
| | Default output at man. control | | | | | | | | | 29 |
| | Default output after power failure | | | | | | | | | 30 |

**Table 4-2. Applicable fields according to model No. (Part I, continued)**

| TAB | FIELD | MODEL NO. | | | | | | | | | PU-2A | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | JF | JFK | JPA | JS | 18JN, 18JDN | JDL | JB | JB2 | JB2/A | GROUP | ITEM |
| Input | Input type | Y | Y | | | Y | Y | Y | | | 01 | 10 |
| | Linearization | | | Y | Y | | | | | | | |
| | Coarse range | | | Y | | | | | | | | 11 |
| | Linearization | | | | | | | | | | | |
| | Square root extraction for input X1 | Y | Y | | | | | | | | | |
| | Low-end cutout adj. | | | Y | | | | | | | | 13 |
| | Scale of 0% value | | | Y | | | Y | | | | | 14 |
| | Input offset angle | | | | Y | | | | | | | |
| | Scale of 100% value | | | Y | | | Y | | | | | 15 |
| | Input range scaling | | | | Y | | | | | | | |
| | Sampling rate modification for irregular pulse input | | | Y | | | | | | | | 18 |
| | Temperature unit | | | | | | Y | | | | | 21 |
| | Gain K0 | Y | Y | | | | | | | | | |
| | Gain K1 | Y | Y | | | | | | | | | 22 |
| | Gain K2 | Y | Y | | | | | | | | | 23 |
| | Gain K3 | | Y | | | | | | | | | 24 |
| | Bias A0 | Y | | | | | | | | | | |
| | Bias A0 | | Y | | | | | | | | | 25 |
| | Bias A1 | Y | | | | | | | | | | |
| | Bias A1 | | Y | | | | | | | | | 26 |
| | Bias A2 | Y | | | | | | | | | | |
| | Bias A2 | | Y | | | | | | | | | 27 |
| | Input Low Limit X1 | Y | | | | | | | | | | |
| | Bias A3 | | Y | | | | | | | | | 28 |
| | Input Low Limit X2 | Y | | | | | | | | | | |
| | Input Low Limit X1 | | Y | | | | | | | | | 29 |
| | Input High Limit X1 | Y | | | | | | | | | | |
| | Input Low Limit X2 | | Y | | | | | | | | | 30 |
| | Input High Limit X2 | Y | | | | | | | | | | |
| | Input Low Limit X3 | | Y | | | | | | | | | 31 |
| | Input High Limit X1 | | Y | | | | | | | | | 32 |
| | Input High Limit X2 | | Y | | | | | | | | | 33 |
| | Input High Limit X3 | | Y | | | | | | | | | 34 |
| Output | Fine zero adjustment | Y | Y | Y | Y | Y | Y | | | | 01 | 19 |
| | Fine span adjustment | Y | Y | Y | Y | Y | Y | | | | | 20 |
| | Manual control mode | | | | | | | Y | Y | Y | | 21 |
| | Transition response | | | | | | | Y | Y | Y | | 22 |
| | Up/down response mode | | | | | | | Y | Y | Y | | 23 |
| | Up/down response time | | | | | | | Y | Y | Y | | 24 |
| | Hi/Lo alarm at cascade control | | | | | | | Y | Y | Y | | 25 |
| | Low alarm setpoint | | | | | | | Y | Y | Y | | 26 |
| | High alarm setpoint | | | | | | | Y | Y | Y | | 27 |
| | Retroactive time period | | | | | | | Y | Y | Y | | 28 |
| | Default output at man. control | | | | | | | Y | Y | Y | | 29 |
| | Default output after power failure | | | | | | | Y | | Y | | 30 |
| | Output at power on | | | | | | | | | Y | | 31 |

**Table 4-2. Applicable fields according to model No. (Part I, Continued)**

| TAB | FIELD | MODEL NO. | | | | | | | | | | | | PU-2A | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | JT | JR | JV | JFTx | | | | | JFX | JM 10JRE | JFX1, JFTSx | | GROUP | ITEM |
| | | | | | 1 | 2 | 3,4 | 5 | 6 | | | 1 | 2 | | |
| Filter | Function Type | | | | Y | Y | Y | Y | Y | | | Y | Y | 01 | 23 |
| | Sampling cycle H | | | | Y | Y | | | Y | | | Y | Y | | 24 |
| | No. of samples to be calculated N | | | | Y | Y | | | Y | | | Y | Y | | 25 |
| | Time constant T | | | | | Y | Y | | | | | | Y | | 26 |
| | Max. rate of positive output range CP | | | | | | | Y | | | | | | | 27 |
| | Max. rate of negative output range CN | | | | | | | Y | | | | | | | 28 |
| | No. of smallest samples to be cut off L | | | | | | | | Y | | | | | | 29 |
| | No. of largest samples to be cut off U | | | | | | | | Y | | | | | | 30 |
| Linearizer | 16 points max. can be imported. | | | | | | | | | Y | Y | | | 01 | 61 – 91 |
| | 100 points max. can be imported. | | | | | | | | | | | Y | | 02<br>03 | 00 – 99<br>00 – 99 |
| I/O check | Output monitor in % | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | | 01 | 03 |
| | Output in % | | | | | | | | | | | | | | |
| | Output temp. monitor | Y | Y | | | | | | | | | | | | 04 |
| | Output angle monitor | | | | | | | | | | | | | | |
| | Ouput status monitor | | | | | | | | | | | | | | |
| | X1: Input 1 status monitor % | | | | | | | | | | | | | | |
| | Input status monitor % | Y | | Y | Y | Y | Y | Y | Y | Y | Y | Y | | | 05 |
| | Input angle monitor | | | | | | | | | | | | | | |
| | X2: Input 2 status monitor % | | | | | | | | | | | | | | |
| | Input status monitor | Y | Y | Y | Y | Y | Y | Y | Y | Y | | | | | 06 |
| | X-axis monitor | | | | | | | | | | | | | | |
| | X3: Input 3 status monitor % | | | | | | | | | | | | | | |
| | X0: normalization parameter mon. | | | | | | | | | | | | | | |
| | Cold junction compensation temperature | Y | | | | | | | | | | | | | 07 |
| | Y-axis monitor | | | | | | | | | | | | | | |
| | X0: normalization parameter mon. | | | | | | | | | | | | | | |
| | X1: normalization parameter mon. | | | | | | | | | | | | | | |
| | Input offset setting monitor | | | | | | | | | | | | | | 08 |
| | X2: normalization parameter mon. | | | | | | | | | | | | | | |

**Table 4-2. Applicable fields according to model No. (Part I, Continued)**

| TAB | FIELD | MODEL NO. | | | | | | | | PU-2A | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | JF | JFK | JPA | JS | 18JN 18JDN | JDL | JB JB2 | JB2/A | GROUP | ITEM |
| Filter | Function Type | | | | | | | | | 01 | 23 |
| | Sampling cycle H | | | | | | | | | | 24 |
| | No. of samples to be calculated N | | | | | | | | | | 25 |
| | Time constant T | | | | | | | | | | 26 |
| | Max. rate of positive output range CP | | | | | | | | | | 27 |
| | Max. rate of negative output range CN | | | | | | | | | | 28 |
| | No. of smallest samples to be cut off L | | | | | | | | | | 29 |
| | No. of largest samples to be cut off U | | | | | | | | | | 30 |
| Linearizer | 16 points max. can be imported. | | | | | | Y | | | 01 | 60 – 91 |
| | 100 points max. can be imported. | | | | | | | | | 02<br>03 | 00 – 99<br>00 – 99 |
| I/O check | Output monitor in % | Y | Y | Y | Y | Y | Y | | | 01 | 03 |
| | Output in % | | | | | | | Y | Y | | |
| | Output temp. monitor | | | | | | Y | | | | 04 |
| | Output angle monitor | | | | Y | | | | | | |
| | Ouput status monitor | | | | | | | Y | Y | | |
| | X1: Input 1 status monitor % | Y | Y | | | | | | | | |
| | Input status monitor % | | | Y | | Y | Y | Y | Y | | 05 |
| | Input angle monitor | | | | Y | | | | | | |
| | X2: Input 2 status monitor % | Y | Y | | | | | | | | |
| | Input status monitor | | | Y | | | Y | Y | Y | | 06 |
| | X-axis monitor | | | | Y | | | | | | |
| | X3: Input 3 status monitor % | | Y | | | | | | | | |
| | X0: normalization parameter mon. | Y | | | | | | | | | |
| | Cold junction compensation temperature | | | | | | | | | | 07 |
| | Y-axis monitor | | | | Y | | | | | | |
| | X0: normalization parameter mon. | | Y | | | | | | | | |
| | X1: normalization parameter mon. | Y | | | | | | | | | |
| | Input offset setting monitor | | | | Y | | | | | | 08 |
| | X2: normalization parameter mon. | Y | | | | | | | | | |
| | EEPROM write times | | | | | | | | Y | | 32 |

### 4.3.3 FIELD-PROGRAMMABLE SIGNAL CONDITIONERS (Part II)

| TAB | FIELD | COMMENTS | PU-2A | |
|---|---|---|---|---|
| | | | GROUP | ITEM |
| File | See 4.2.1. | | | |
| Input | Cutout time | Unit: msec. 100 – 300000 msec. | 01 | 20 |
| | Sampling time | Unit: msec. 50 – 100000 msec. | | 21 |
| | No. of samples used for calculating transfer average | Click Drop-down arrow to call a list and choose. | | 23 |
| | Output mode at power ON | | | 28 |
| | Prescaling the rotary encoder signal | | | 29 |
| Output (1) | Output in % of zero/span freq. | Unit: %. Choose within -15 – 115%. | 01 | 03 |
| | Output frequency at output 0% | Unit: xHz*. -150 kHz – 149.9 kHz | | 08 |
| | Output frequency at output 100% | Unit: xHz*. 100 mHz – 150 kHz | | 09 |
| | Input frequency at output 0% | Unit: xHz*. -150 kHz – 149.9 kHz | | 12 |
| | Input frequency at output 100% | Unit: xHz*. 100 mHz – 150 kHz | | 13 |
| | Count at output 0% | Unit: counts. -8388607 – 8388606 counts | | 14 |
| | Count at output 100% | Unit: counts. 0 – 8388607 counts | | 15 |
| | Output fine adjustment (zero) | Unit: %. 85.00 – 115.00% | | 18 |
| | Output fine adjustment (span) | Unit: %. 85.00 – 115.00% | | 19 |
| Output (2) | Output update time | Unit: msec. 50 – 100000 msec. | 01 | 22 |
| | Alarm setpoint | Unit: %. 0 – 100.00% | | 24 |
| | Hysteresis for alarm setpoint | Unit: %. 0 – 20.00% | | 25 |
| | Alarm operation mode | Click a button. | | 26 |
| | Output mode at counter overflow | Click Drop-down arrow to call a list and choose. | | 27 |
| | Output frequency limit | Unit: xHz*. 2.01 Hz – 150 kHz | | 33 |
| Port | See 4.2.2. | | | |
| I/O check | Output monitor % | Display only | 01 | 03 |
| | Input monitor % | Display only | | 05 |
| | Input frequency in Hz | Engineering unit. Display only. | | 06 |
| | Input counter value | Display only | | 07 |

*xHz: Choose “none”, “k”, or “m” for “x”.

**Table 4-3. Applicable fields according to model No. (Part II)**

| TAB | FIELD | MODEL NO. | | | | | | | PU-2A | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | JPAD | JRPD | JPQD | JRQD | JARP JAPD | JPRD JPSM | JFRD | GROUP | ITEM |
| Input | Cutout time | Y | Y | | | | Y | Y | 01 | 20 |
| | Sampling time | Y | Y | | | | Y | Y | | 21 |
| | No. of samples used for calculating transfer average | Y | Y | | | | Y | Y | | 23 |
| | Output mode at power ON | | | Y | Y | | | | | 28 |
| | Prescaling the rotary encoder signal | | Y | | Y | | | | | 29 |
| Output (1) | Output in % of zero/span freq. | Y | Y | Y | Y | Y | Y | Y | 01 | 03 |
| | Output frequency at output 0% | | | | | Y | Y | Y | | 08 |
| | Output frequency at output 100% | | | | | Y | Y | Y | | 09 |
| | Input frequency at output 0% | Y | Y | | | | Y | Y | | 12 |
| | Input frequency at output 100% | Y | Y | | | | Y | Y | | 13 |
| | Count at output 0% | | | Y | Y | | | | | 14 |
| | Count at output 100% | | | Y | Y | | | | | 15 |
| | Output fine adjustment (zero) | Y | Y | Y | Y | | | | | 18 |
| | Output fine adjustment (span) | Y | Y | Y | Y | | | | | 19 |
| Output (2) | Output update time | Y | Y | Y | Y | | | | 01 | 22 |
| | Alarm setpoint | Y | Y | Y | Y | Y | | | | 24 |
| | Hysteresis for alarm setpoint | Y | Y | Y | Y | Y | | | | 25 |
| | Alarm operation mode | Y | Y | Y | Y | Y | | | | 26 |
| | Output mode at counter overflow | | | Y | | | | | | 27 |
| | Output frequency limit | | | | | | Y | | | 33 |
| I/O check | Output monitor % | Y | Y | Y | Y | | | | 01 | 03 |
| | Input monitor % | Y | | Y | | | Y | Y | | 05 |
| | Input frequency in Hz | Y | | Y | | | Y | Y | | 06 |
| | Input counter value | | Y | | Y | | Y | | | 07 |

### 4.3.4 FIELD-PROGRAMMABLE SIGNAL CONDITIONERS (Part III)

**Model JPA2, WJPAD2**

| TAB | FIELD | UNIT | SELECTABLE RANGE | DECIMAL PLACES | PU-2A ITEM (GROUP 01) |
|---|---|---|---|---|---|
| File | See 4.2.1. | --- | --- | --- | --- |
| Input | Linearization (16 points) | --- | Choose among options | --- | 10 |
| | Frequency range | --- | Choose among options | --- | 11 |
| | Low-end cutout | % | -15.00 – 115.00 | 2 | 13 |
| | Input zero frequency | mHz/Hz/kHz | Depends upon the frequency range | | 14 |
| | | | 10 mHz range : 0.000 – 32.000 | 3 | |
| | | | 100 mHz range : 0.00 – 320.00 | 2 | |
| | | | 1 Hz range : 0.0000 – 3.2000 | 4 | |
| | | | 10 Hz range : 0.000 – 32.000 | 3 | |
| | | | 100 Hz range : 0.00 – 320.00 | 2 | |
| | | | 1 kHz range : 0.0000 – 3.2000 | 4 | |
| | | | 10 kHz range : 0.000 – 32.000 | 3 | |
| | | | 100 kHz range : 0.00 – 320.00 | 2 | |
| | Input span frequency | mHz/Hz/kHz | Same as the input zero frequency but must be higher than it | --- | 15 |
| | Non-uniform pulse compensation | --- | ≤ 100 Hz range : 1 – 255 | 0 | 18 |
| | | | 1 kHz range : 1 – 25 | | |
| | | | 10 kHz range : 1 – 2 | | |
| | | | 100 kHz range : 1 | | |
| Output | Fine zero adjustment | % | -320.00 – 320.00 | 2 | 19 |
| | Fine span adjustment | % | -320.00 – 320.00 | 2 | 20 |
| Alarm | Alarm mode | --- | Choose among options | --- | 21 |
| | Alarm setpoint | % | -15.00 – 115.00 | 2 | 22 |
| | Alarm deadband | % | 0.00 – 20.00 | 2 | 23 |
| | Alarm delay at the startup | sec | 2.0 – 1000.0 | 1 | 24 |
| Linearizer | Linearizer | --- | -15.00 – 115.00 and X(n) > X(n–1) (0 or blank is allowed) | 2 | --- |
| Port | See 4.2.2. | --- | --- | --- | --- |
| I/O check | Output % / Simulation output | % | -15.00 – 115.00 for simulated output | 2 | 03 |
| | Input % | % | --- | --- | 05 |
| | Input frequency | mHz/Hz/kHz | --- | --- | 06 |

**Model JPQ2**

| TAB | FIELD | UNIT | SELECTABLE RANGE | DECIMAL PLACES | PU-2A ITEM (GROUP 01) |
|---|---|---|---|---|---|
| File | See 4.2.1. | --- | --- | --- | --- |
| Input | Input count at power off | --- | Choose among options | --- | 08 |
| | Linearization (16 points) | --- | Choose among options | --- | 10 |
| | Count mode | --- | Choose among options | --- | 11 |
| | Overflow mode | --- | Choose among options | --- | 12 |
| | Input zero count | --- | 0 – 99 999 999 | 0 | 14 |
| | Input span count | --- | Same as the input zero count but must be higher than it | 0 | 15 |
| Output | Fine zero adjustment | % | -320.00 – 320.00 | 2 | 19 |
| | Fine span adjustment | % | -320.00 – 320.00 | 2 | 20 |
| Alarm | Alarm mode | --- | Choose among options | --- | 21 |
| | Alarm setpoint | % | -15.00 – 115.00 | 2 | 22 |
| | Alarm delay at the startup | sec | 2.0 – 1000.0 | 1 | 24 |
| Linearizer | Linearizer | --- | -15.00 – 115.00 and X(n) > X(n–1) (0 or blank is allowed) | 2 | --- |
| Port | See 4.2.2. | --- | --- | --- | --- |
| I/O check | Output % / Simulation output | % | -15.00 – 115.00 for simulated output | 2 | 03 |
| | Input % | % | --- | --- | 05 |
| | Input count / Count set | --- | 0 – 99 999 999 for Count set | 0 | 06 |

**Model JRP2**

| TAB | FIELD | UNIT | SELECTABLE RANGE | DECIMAL PLACES | PU-2A ITEM (GROUP 01) |
|---|---|---|---|---|---|
| File | See 4.2.1. | --- | --- | --- | --- |
| Input | Linearization (16 points) | --- | Choose among options | --- | 10 |
| | Frequency range | --- | Choose among options | --- | 11 |
| | Low-end cutout | mHz/Hz/kHz | Depends upon the frequency range | | 13 |
| | | | 10 mHz range : 0.000 – 32.000 | 3 | |
| | | | 100 mHz range : 0.00 – 320.00 | 2 | |
| | | | 1 Hz range : 0.0000 – 3.2000 | 4 | |
| | | | 10 Hz range : 0.000 – 32.000 | 3 | |
| | | | 100 Hz range : 0.00 – 320.00 | 2 | |
| | | | 1 kHz range : 0.0000 – 3.2000 | 4 | |
| | | | 10 kHz range : 0.000 – 32.000 | 3 | |
| | | | 100 kHz range : 0.00 – 320.00 | 2 | |
| | Input zero frequency | mHz/Hz/kHz | Depends upon the frequency range | | 14 |
| | | | 10 mHz range : -32.000 – 32.000 | 3 | |
| | | | 100 mHz range : -320.00 – 320.00 | 2 | |
| | | | 1 Hz range : -3.2000 – 3.2000 | 4 | |
| | | | 10 Hz range : -32.000 – 32.000 | 3 | |
| | | | 100 Hz range : -320.00 – 320.00 | 2 | |
| | | | 1 kHz range : -3.2000 – 3.2000 | 4 | |
| | | | 10 kHz range : -32.000 – 32.000 | 3 | |
| | | | 100 kHz range : -320.00 – 320.00 | 2 | |
| | Input span frequency | mHz/Hz/kHz | Same as the input zero frequency but must be higher than it | --- | 15 |
| | Non-uniform pulse compensation | --- | ≤ 100 Hz range : 1 – 255 | 0 | 18 |
| | | | 1 kHz range : 1 – 25 | | |
| | | | 10 kHz range : 1 – 2 | | |
| | | | 100 kHz range : 1 | | |
| Output | Fine zero adjustment | % | -320.00 – 320.00 | 2 | 19 |
| | Fine span adjustment | % | -320.00 – 320.00 | 2 | 20 |
| Alarm | Alarm mode | --- | Choose among options | --- | 21 |
| | Alarm setpoint | % | -15.00 – 115.00 | 2 | 22 |
| | Alarm deadband | % | 0.00 – 20.00 | 2 | 23 |
| | Alarm delay at the startup | sec | 2.0 – 1000.0 | 1 | 24 |
| Linearizer | Linearizer | --- | -15.00 – 115.00 and X(n) > X(n–1) (0 or blank is allowed) | 2 | --- |
| Port | See 4.2.2. | --- | --- | --- | --- |
| I/O check | Output % / Simulation output | % | -15.00 – 115.00 for simulated output | 2 | 03 |
| | Input % | % | --- | --- | 05 |
| | Input frequency | mHz/Hz/kHz | --- | --- | 06 |

**Model JRQ2**

| TAB | FIELD | UNIT | SELECTABLE RANGE | DECIMAL PLACES | PU-2A ITEM (GROUP 01) |
|---|---|---|---|---|---|
| File | See 4.2.1. | --- | --- | --- | --- |
| Input | Input count at power off | --- | Choose among options | --- | 08 |
| | Linearization (16 points) | --- | Choose among options | --- | 10 |
| | Count mode | --- | Choose among options | --- | 11 |
| | Input zero count | --- | -99 999 999 – 99 999 999 | 0 | 14 |
| | Input span count | --- | Same as the input zero count but must be higher than it | 0 | 15 |
| Output | Fine zero adjustment | % | -320.00 – 320.00 | 2 | 19 |
| | Fine span adjustment | % | -320.00 – 320.00 | 2 | 20 |
| Alarm | Alarm mode | --- | Choose among options | --- | 21 |
| | Alarm setpoint | % | -15.00 – 115.00 | 2 | 22 |
| | Alarm deadband | % | 0.00 – 20.00 | 2 | 23 |
| | Alarm delay at the startup | sec | 2.0 – 1000.0 | 1 | 24 |
| Linearizer | Linearizer | --- | -15.00 – 115.00 and X(n) > X(n–1) (0 or blank is allowed) | 2 | --- |
| Port | See 4.2.2. | --- | --- | --- | --- |
| I/O check | Output % / Simulation output | % | -15.00 – 115.00 for simulated output | 2 | 03 |
| | Input % | % | --- | --- | 05 |
| | Input count / Count set | --- | -99 999 999 – 99 999 999 for Count set | 0 | 06 |

**Model JPR2**

| TAB | FIELD | UNIT | SELECTABLE RANGE | DECIMAL PLACES | PU-2A ITEM (GROUP 01) |
|---|---|---|---|---|---|
| File | See 4.2.1. | --- | --- | --- | --- |
| Input | Input pulse set count | --- | 1 – 1 000 000 | 0 | 04 |
| | Output pulse set count | --- | 1 – 1 000 000 | 0 | 05 |
| | Sampling time | sec | 0.01 – 100.00 | 2 | 07 |
| | Count mode | --- | Choose among options | --- | 09 |
| Output | Max output frequency | Hz | 0.5 – 100 000.0 | 1 | 06 |
| Port | See 4.2.2. | --- | --- | --- | --- |
| I/O check | Input count / Count set | --- | 0 – 4 294 967 295 for Count set | 0 | 03 |

**Model JPS3**

| TAB | FIELD | UNIT | SELECTABLE RANGE | DECIMAL PLACES | PU-2A ITEM (GROUP 01) |
|---|---|---|---|---|---|
| File | See 4.2.1. | --- | --- | --- | --- |
| Input | Input pulse set count | --- | 1 – 1 000 000 | 0 | 05 |
| | Output pulse set count | --- | 1 – 1 000 000 | 0 | 06 |
| | Sampling time | sec | 0.01 – 100.00 | 2 | 08 |
| | Count mode | --- | Choose among options | --- | 10 |
| Output | Max output frequency | Hz | 0.5 – 100 000.0 | 1 | 07 |
| Port | See 4.2.2. | --- | --- | --- | --- |
| I/O check | Input 1 count / Count set | --- | 0 – 4 294 967 295 for Count set | 0 | 03 |
| | Input 2 count / Count set | --- | 0 – 4 294 967 295 for Count set | 0 | 04 |

**Model JFR2**

| TAB | FIELD | UNIT | SELECTABLE RANGE | DECIMAL PLACES | PU-2A ITEM (GROUP 01) |
|---|---|---|---|---|---|
| File | See 4.2.1. | --- | --- | --- | --- |
| Input | Input frequency range | --- | Choose among options | --- | 11 |
| | Input span frequency | mHz/Hz/kHz | Depends upon the input frequency range | | 12 |
| | | | 10 mHz range : 0.000 – 32.000 | 3 | |
| | | | 100 mHz range : 0.00 – 320.00 | 2 | |
| | | | 1 Hz range : 0.0000 – 3.2000 | 4 | |
| | | | 10 Hz range : 0.000 – 32.000 | 3 | |
| | | | 100 Hz range : 0.00 – 320.00 | 2 | |
| | | | 1 kHz range : 0.0000 – 3.2000 | 4 | |
| | | | 10 kHz range : 0.000 – 32.000 | 3 | |
| | | | 100 kHz range : 0.00 – 320.00 | 2 | |
| | Output frequency range | --- | Chose among options | --- | 13 |
| | Output span frequency | mHz/Hz/kHz | Depends upon the output frequency range | | 14 |
| | | | 1 mHz range : 0.0000 – 3.2000 | 4 | |
| | | | 10 mHz range : 0.000 – 32.000 | 3 | |
| | | | 100 mHz range : 0.00 – 320.00 | 2 | |
| | | | 1 Hz range : 0.0000 – 3.2000 | 4 | |
| | | | 10 Hz range : 0.000 – 32.000 | 3 | |
| | | | 100 Hz range : 0.00 – 320.00 | 2 | |
| | | | 1 kHz range : 0.0000 – 3.2000 | 4 | |
| | | | 10 kHz range : 0.000 – 32.000 | 3 | |
| | Low-end cutout | mHz/Hz/kHz | Depends upon the input frequency range | | 15 |
| | | | 10 mHz range : 0.030 – 10.000 | 3 | |
| | | | 100 mHz range : 0.30 – 100.00 | 2 | |
| | | | 1 Hz range : 0.0030 – 1.0000 | 4 | |
| | | | 10 Hz range : 0.030 – 10.000 | 3 | |
| | | | 100 Hz range : 0.30 – 100.00 | 2 | |
| | | | 1 kHz range : 0.0030 – 1.0000 | 4 | |
| | | | 10 kHz range : 0.030 – 10.000 | 3 | |
| | | | 100 kHz range : 0.30 – 100.00 | 2 | |
| | Non-uniform pulse compensation | --- | Depends upon the input frequency range | 0 | 18 |
| | | | ≤ 100 Hz range : 1 – 255 | | |
| | | | 1 kHz range : 1 – 25 | | |
| | | | 10 kHz range : 1 – 2 | | |
| | | | 100 kHz range : 1 | | |
| Output | Fine zero adjustment | % | -320.00 – 320.00 | 2 | 19 |
| | Fine span adjustment | % | -320.00 – 320.00 | 2 | 20 |
| Port | See 4.2.2. | --- | --- | --- | --- |
| I/O check | Output % / Simulation output | % | -15.00 – 115.00 for simulated output | 2 | 03 |
| | Input % | % | --- | --- | 05 |
| | Input frequency | mHz/Hz/kHz | --- | --- | 06 |

**Model JTY2**

| TAB | FIELD | UNIT | SELECTABLE RANGE | DECIMAL PLACES | PU-2A ITEM (GROUP 01) |
|---|---|---|---|---|---|
| File | See 4.2.1. | --- | --- | --- | --- |
| Input | Sample number for the moving average | --- | 1 – 30; Must be higher than [High samples + Low samples] | 0 | 08 |
| | High samples to be discarded | --- | 0 – 10 | 0 | 09 |
| | Low samples to be discarded | --- | 0 – 10 | 0 | 10 |
| | Linearization (16 points) | --- | Choose among options | --- | 11 |
| | Input zero duty ratio | % | 0.00 – 100.00 or using the actual input signal | 2 | 12 |
| | Input span duty ratio | % | 0.00 – 100.00 or using the actual input signal | 2 | 13 |
| | No input detecting time | sec | 0.1 – 100.0 | 1 | 26 |
| | Pulse logic | --- | Choose among options | --- | 27 |
| Output | Fine zero adjustment | % | -320.00 – 320.00 | 2 | 19 |
| | Fine span adjustment | % | -320.00 – 320.00 | 2 | 20 |
| Alarm | Alarm mode | --- | Choose among options | --- | 21 |
| | Alarm setpoint | % | -15.00 – 115.00 | 2 | 22 |
| | Alarm deadband | % | 0.00 – 20.00 | 2 | 23 |
| | Alarm delay at the startup | sec | 2.0 – 1000.0 | 1 | 24 |
| Linearizer | Linearizer | --- | -15.00 – 115.00 and X(n) > X(n–1) (0 or blank is allowed) | 2 | --- |
| Port | See 4.2.2. | --- | --- | --- | --- |
| I/O check | Output % / Simulation output | % | -15.00 – 115.00 for simulated output | 2 | 03 |
| | Input % | % | --- | --- | 05 |
| | Input duty ratio | % | --- | --- | 06 |

**Model JAPD2**

| TAB | FIELD | UNIT | SELECTABLE RANGE | DECIMAL PLACES | PU-2A ITEM (GROUP 01) |
|---|---|---|---|---|---|
| File | See 4.2.1. | --- | --- | --- | --- |
| Output | Output frequency range | --- | Choose among options | --- | 11 |
| | Output zero frequency | kHz/Hz/mHz | Depending on output frequency range | | 12 |
| | | | 0 – 10 kHz: 0.000 – 20.000 | 3 | |
| | | | 0 – 1 kHz: 0.0000 – 2.0000 | 4 | |
| | | | 0 – 100 Hz: 0.00 – 200.00 | 2 | |
| | | | 0 – 10 Hz: 0.000 – 20.000 | 3 | |
| | | | 0 – 1 Hz: 0.0000 – 2.0000 | 4 | |
| | | | 0 – 100 mHz: 0.00 – 200.00 | 2 | |
| | Output span frequency | kHz/Hz/mHz | Same as item 12 (with higher value) | As item 12 | 13 |
| | Input zero fine adjustment | % | -5.00 – 5.00 | 2 | 19 |
| | Input span fine adjustment | % | 95.00 – 105.00 | 2 | 20 |
| Alarm | Alarm mode | --- | Choose among options | --- | 21 |
| | Alarm setpoint | % | -5.00 – 105.00 | 2 | 22 |
| | Alarm deadband | % | 0.00 – 20.00 | 2 | 23 |
| | Alarm delay at the startup | sec | 2.0 – 1000.0 | 1 | 24 |
| Port | See 4.2.2 | --- | --- | --- | --- |
| I/O check | Output (%) / Simulation output | % | -5.00 – 105.00 (simulation output) | 2 | 03 |
| | Output frequency display | kHz/Hz/mHz | --- | --- | 04 |
| | Input (%) | % | --- | --- | 05 |

**Model JARP2**

| TAB | FIELD | UNIT | SELECTABLE RANGE | DECIMAL PLACES | PU-2A ITEM (GROUP 01) |
|---|---|---|---|---|---|
| File | See 4.2.1. | --- | --- | --- | --- |
| Output | Output frequency range | --- | Choose among options | --- | 11 |
| | Output zero frequency | kHz/Hz/mHz | Depending on output frequency range | | 12 |
| | | | 0 – 10 kHz: -20.000 – 20.000 | 3 | |
| | | | 0 – 1 kHz: -2.0000 – 2.0000 | 4 | |
| | | | 0 – 100 Hz: -200.00 – 200.00 | 2 | |
| | | | 0 – 10 Hz: -20.000 – 20.000 | 3 | |
| | | | 0 – 1 Hz: -2.0000 – 2.0000 | 4 | |
| | | | 0 – 100 mHz: -200.00 – 200.00 | 2 | |
| | Output span frequency | kHz/Hz/mHz | Same as item 12 (with higher value) | As item 12 | 13 |
| | Input zero fine adjustment | % | -5.00 – 5.00 | 2 | 19 |
| | Input span fine adjustment | % | 95.00 – 105.00 | 2 | 20 |
| Alarm | Alarm mode | --- | Choose among options | --- | 21 |
| | Alarm setpoint | % | -5.00 – 105.00 | 2 | 22 |
| | Alarm deadband | % | 0.00 – 20.00 | 2 | 23 |
| | Alarm delay at the startup | sec | 2.0 – 1000.0 | 1 | 24 |
| Port | See 4.2.2 | --- | --- | --- | --- |
| I/O check | Output (%) / Simulation output | % | -5.00 – 105.00 (simulation output) | 2 | 03 |
| | Output frequency display | kHz/Hz/mHz | --- | --- | 04 |
| | Input (%) | % | --- | --- | 05 |

### 4.3.5 PC-PROGRAMMABLE SIGNAL CONDITIONERS

| TAB | FIELD | COMMENTS | PU-2A | |
|---|---|---|---|---|
| | | | GROUP | ITEM |
| File | | See 4.2.1. | | |
| Input | Input type | Click Drop-down arrow to call a list and choose. | 01 | 10 |
| | Scale of 0% value | Input at 0% in engineering unit | | 14 |
| | Scale of 100% value | Input at 100% in engineering unit | | 15 |
| | Temperature unit | Click a button. | | 21 |
| | Input resistance | | | 22 |
| | Linearization | | | 23 |
| | Burnout | | | 24 |
| Output | Output type | Click Drop-down arrow to call a list and choose. | 01 | 11 |
| | Scale of 0% value | Output at 0% in engineering unit | | 12 |
| | Scale of 100% value | Output at 100% in engineering unit | | 13 |
| | Fine zero adjustment | Unit: %, two decimals | | 19 |
| | Fine span adjustment | | | 20 |
| Linearizer | 100 points max. | A CSV file (*.csv: comma separated values) can be imported. | 02<br>03 | 00 – 99<br>00 – 99 |
| CJM | Temperature in deg.C | Temperature compensation reference. | 01 | 34 |
| | Voltage | Enter new sensor data when the CJM module is replaced. | | 35 |
| Port | | See 4.2.2. | | |
| I/O check | Output monitor & simulation output | | | |
| | Setting in % | Enter a value for simulated output. | 01 | 03 |
| | Monitor in % | Setting value | | |
| | Output temp. monitor | Display only | | 04 |
| | Input status monitor % | Display only | | 05 |
| | Input status monitor | Engineering unit. Display only. | | 06 |
| | Cold junction compensation temperature | Display only | | 07 |

**Table 4-4. Applicable fields according to model No.**

| TAB | FIELD | MODEL NO. | | | | | PU-2A | |
|---|---|---|---|---|---|---|---|---|
| | | M2XV<br>M2XV2<br>M8XV<br>M8XV1 | M2XT<br>M2XT2<br>M8XT<br>M8XT1 | M2XM<br>M2XM2<br>M8XM<br>M8XM1 | M2XR<br>M2XR2<br>M8XR<br>M8XR1 | M2XF<br>M2XF2 | GROUP | ITEM |
| Input | Input type | Y | Y | Y | Y | Y | 01 | 10 |
| | Scale of 0% value | Y | Y | Y | Y | Y | | 14 |
| | Scale of 100% value | Y | Y | Y | Y | Y | | 15 |
| | Temperature unit | | Y | | Y | | | 21 |
| | Input resistance | Y | | | | Y | | 22 |
| | Linearization | | | Y | | Y | | 23 |
| | Burnout | | Y | Y | Y | | | 24 |
| Output | Output type | Y | Y | Y | Y | Y | 01 | 11 |
| | Scale of 0% value | Y | Y | Y | Y | Y | | 12 |
| | Scale of 100% value | Y | Y | Y | Y | Y | | 13 |
| | Fine zero adjustment | Y | Y | Y | Y | Y | | 19 |
| | Fine span adjustment | Y | Y | Y | Y | Y | | 20 |
| CJM | Temperature in deg.C | | Y | | | | 01 | 34 |
| | Voltage | | Y | | | | | 35 |
| I/O check | Output monitor in % | Y | Y | Y | Y | Y | 01 | 03 |
| | Output temp. monitor | | Y | | Y | | | 04 |
| | Input status monitor % | Y | Y | Y | Y | Y | | 05 |
| | Input status monitor | Y | Y | Y | Y | Y | | 06 |
| | Cold junction compensation temperature | | Y | | | | | 07 |

### 4.3.6 PC-PROGRAMMABLE SIGNAL CONDITIONERS (models M2XU and M2XUM)

| TAB | FIELD | COMMENTS | INPUT TYPE | | | |
|---|---|---|---|---|---|---|
| | | | DC | TC | RTD | PM |
| File | | See 4.2.1. | Y | Y | Y | Y |
| Input | Input model | Click Drop-down arrow to call a list and choose. | Y | Y | Y | Y |
| | Input type | Click Drop-down arrow to call a list and choose. | Y | Y | Y | Y |
| | Scale of 0% value | Input at 0% in engineering unit | Y | Y | Y | Y |
| | Scale of 100% value | Input at 100% in engineering unit | Y | Y | Y | Y |
| | Temperature unit | Click Drop-down arrow to call a list and choose. | | Y | Y | |
| | CJC SW | Click Drop-down arrow to call a list and choose. | | Y | | |
| | Linearization | Click Drop-down arrow to call a list and choose. | Y | | | Y |
| | Burnout | Click Drop-down arrow to call a list and choose. | | Y | Y | Y |
| Output | Output type | Click Drop-down arrow to call a list and choose. | Y | Y | Y | Y |
| | Scale of 0% value | Output at 0% in engineering unit | Y | Y | Y | Y |
| | Scale of 100% value | Output at 100% in engineering unit | Y | Y | Y | Y |
| | Fine zero adjustment | Unit: %, two decimals | Y | Y | Y | Y |
| | Fine span adjustment | | Y | Y | Y | Y |
| Linearizer | 100 points max. | A CSV file (*.csv: comma separated values) can be imported. | Y | | | Y |
| TC TBL | TC temperature table | A CSV file can be imported. | | Y | | |
| | | Read/Write applied only on this tab. | | | | |
| RTD TBL | RTD temperature table | A CSV file can be imported. | | | Y | |
| | | Read/Write applied only on this tab. | | | | |
| CJM | Temperature in deg.C | Temperature compensation reference. | | Y | | |
| | Voltage | Enter new sensor data when the CJM module is replaced. | | Y | | |
| Modbus | Modbus protocol | Read/Write applied only on this tab. | Y | Y | Y | Y |
| Port | | See 4.2.2. | Y | Y | Y | Y |
| I/O check | Output monitor & simulation output | | | | | |
| | Setting in % | Enter a value for simulated output. | Y | Y | Y | Y |
| | Monitor in % | Setting value | | | | |
| | Output temp. monitor | Display only | | Y | Y | |
| | Input status monitor % | Display only | Y | Y | Y | Y |
| | Input status monitor | Engineering unit. Display only. | Y | Y | Y | Y |
| | Cold junction compensation temperature | Display only | | Y | | |

### 4.3.7 PC-PROGRAMMABLE FREQUENCY TRANSMITTER (model M2XPA)

| TAB | FIELD | COMMENTS |
|---|---|---|
| File | | See 4.2.1. |
| Input | Frequency range | Click Drop-down arrow to call a list and choose. |
| | Cutout time | Specify within 100 to 100000 msec., round-off by 5 msec. |
| | Sampling time | Specify within 50 to 100000 msec., round-off by 5 msec. |
| | Number of samples used for calculating transfer average | Click Drop-down arrow to call a list and choose. |
| | Input spec code | Click Drop-down arrow to call a list and choose. |
| | Sampling rate modification for irregular pulse input | Specify within 1 to 255. |
| | Linearization | Enable or disable the linearization table. |
| | Max. input voltage with Input | Select either <6V or ≥6V. |
| | Code B | |
| | V low threshold | Specify within 0 to 6V in 0.05V increments. |
| | V high threshold | Specify within 0 to 6V in 0.05V increments. |
| Output | Output type | Click Drop-down arrow to call a list and choose. |
| | Input frequency at output 0% | Unit: xHz*, range: 0 – 9999 with decimals, valid digits: 4 |
| | Input frequency at output 100% | Unit: xHz*, range: 0 – 9999 with decimals, valid digits: 4 |
| | Fine adjustment (zero) | -15.00 to 15.00 (%) |
| | Fine adjustment (span) | 85.00 to 115.00 (%) |
| | Output zero | Output at 0% in engineering unit, max. three decimals |
| | Output span | Output at 100% in engineering unit, max. three decimals |
| Linearizer | 100 points max. | A CSV file (*.csv: comma separated values) can be imported. |
| Port | | See 4.2.2. |
| I/O check | Output monitor & simulation output | |
| | Setting in % | Enter a value for simulated output. |
| | Monitor in % | Setting value |
| | Input freq. monitor % | Display only |
| | Input freq. monitor Hz | Display only |

*xHz: Hz, kHz or mHz selectable.

### 4.3.8 PC-PROGRAMMABLE FREQUENCY TRANSMITTER (model M2XPA2)

| TAB | FIELD | COMMENTS |
|---|---|---|
| File | | See 4.2.1. |
| Input | Input type | Click Drop-down arrow to call a list and choose. |
| | Input range | Click Drop-down arrow to call a list and choose. |
| | Input scale for output 0% | Engineering unit |
| | Input scale for output 100% | Engineering unit |
| | Linearization | Enable or disable the linearization table. |
| | Input Vp-p | Click Drop-down arrow to call a list and choose. |
| | Threshold | Specify the threshold. |
| | Measuring freq | Monitoring the current input frequency. |
| | Cutout | Specify within 0 to 100 (%). |
| | Sampling time | Specify within 50 to 1000 msec., round-off by 5 msec. |
| | Sensor excitation | Click Drop-down arrow to call a list and choose. |
| Output | Output type | Click Drop-down arrow to call a list and choose. |
| | Output scale of 0% | Output at 0% in engineering unit |
| | Output scale of 100% | Output at 100% in engineering unit |
| Linearizer | Linearization table | 101 points max. A CSV file (*.csv: comma separated values) can be imported/exported. Read/Write applied only on this tab. |
| | Size | 2 to 101 (sets of point) |
| Port | | See 4.2.2. |
| I/O check | Output monitor & simulation output | |
| | Setting in % | Enter a value for simulated output. |
| | Monitor in % | Setting value |
| | Measured freq Hz | Display only |
| | Input monitor % | Display only |
| | Zero Adj. | -6.00 to 6.00 (%) |
| | Span Adj. | 94.00 to 106.00 (%) |

### 4.3.9 PC-PROGRAMMABLE FREQUENCY TRANSMITTER (model M2XPA3)

<table>
<tr><th>TAB</th><th>FIELD</th><th>COMMENTS</th></tr>
<tr><td>File</td><td></td><td>See 4.2.1.</td></tr>
<tr><td rowspan="11">Input</td><td>Input type</td><td>Click Drop-down arrow to call a list and choose.</td></tr>
<tr><td>Input range</td><td>Click Drop-down arrow to call a list and choose.</td></tr>
<tr><td>Input Vp-p range</td><td>Click Drop-down arrow to call a list and choose.</td></tr>
<tr><td>Input frequency (zero)</td><td>Engineering unit</td></tr>
<tr><td>Input frequency (span)</td><td>Engineering unit</td></tr>
<tr><td>Cutout frequency</td><td>Specify within 0.00 to 100.00 (%).</td></tr>
<tr><td>Number of samples used for calculating transfer average</td><td>Specify how many samples should be used to calculate the moving average.<br>Selectable range depends upon the input frequency range.<br>Used number of data for moving average is (setting value) x (coefficient).
<table>
<tr><th>INPUT FREQUENCY RANGE</th><th>SETTABLE RANGE</th><th>COEFFICIENT</th></tr>
<tr><td>0 to ≤ 100 HZ</td><td>1 to 255</td><td>1</td></tr>
<tr><td>0 to 1 kHZ</td><td>1 to 25</td><td>10</td></tr>
<tr><td>0 to 10 kHZ</td><td>1 to 2</td><td>100</td></tr>
<tr><td>0 to 200 kHZ</td><td>1</td><td>250</td></tr>
</table></td></tr>
<tr><td>Linearization</td><td>Enable or disable the linearization table.</td></tr>
<tr><td>Threshold</td><td>Specify the threshold. Selectable within -2.000 to 4.000 (V).</td></tr>
<tr><td>Measuring freq</td><td>Monitoring the current input frequency.</td></tr>
<tr><td>Sensor excitation</td><td>Click Drop-down arrow to call a list and choose.</td></tr>
<tr><td rowspan="5">Output</td><td>Output type</td><td>Click Drop-down arrow to call a list and choose.</td></tr>
<tr><td>Output scale of 0%</td><td>Output at 0% in engineering unit</td></tr>
<tr><td>Output scale of 100%</td><td>Output at 100% in engineering unit</td></tr>
<tr><td>Fine adjustment (zero)</td><td>-5.00 to 5.00 (%)</td></tr>
<tr><td>Fine adjustment (span)</td><td>95.00 to 105.00 (%)</td></tr>
<tr><td>Linearizer</td><td>Linearization table</td><td>100 points max. A CSV file (*.csv: comma separated values) can be imported/exported.</td></tr>
<tr><td>Port</td><td></td><td>See 4.2.2.</td></tr>
<tr><td rowspan="6">I/O check</td><td>Output monitor & simulation output</td><td></td></tr>
<tr><td>Setting in %</td><td>Enter a value for simulated output.</td></tr>
<tr><td>Monitor in %</td><td>Setting value</td></tr>
<tr><td>Output value</td><td>Display only</td></tr>
<tr><td>Input monitor %</td><td>Display only</td></tr>
<tr><td>Input frequency</td><td>Display only</td></tr>
</table>

### 4.3.10 PC-PROGRAMMABLE ENCODER SPEED TRANSMITTER (model M2XRP2)

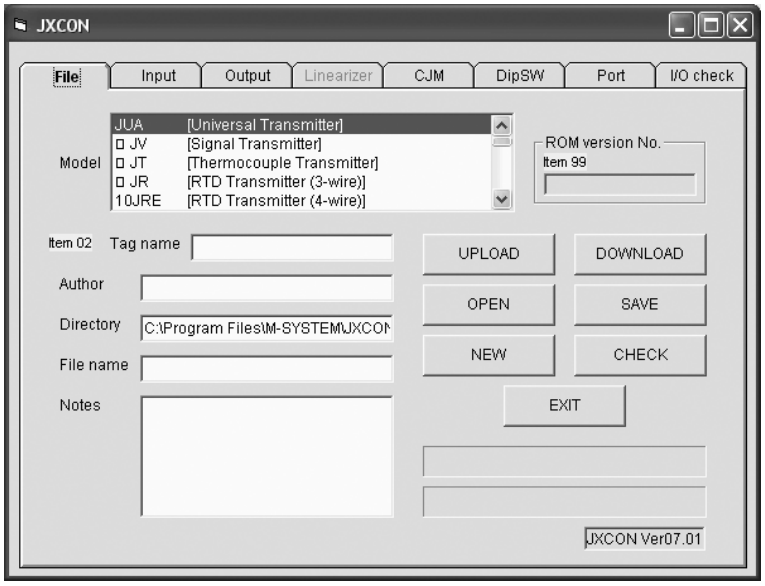
<table>
<tr><th>TAB</th><th>FIELD</th><th>COMMENTS</th></tr>
<tr><td>File</td><td></td><td>See 4.2.1.</td></tr>
<tr><td rowspan="11">Input</td><td>Input type</td><td>Click Drop-down arrow to call a list and choose.</td></tr>
<tr><td>Input range</td><td>Click Drop-down arrow to call a list and choose.</td></tr>
<tr><td>Input Vp-p range</td><td>Click Drop-down arrow to call a list and choose.</td></tr>
<tr><td>Input frequency (zero)</td><td>Engineering unit</td></tr>
<tr><td>Input frequency (span)</td><td>Engineering unit</td></tr>
<tr><td>Cutout frequency</td><td>Specify within 0 to 32000 (same number of decimal places and unit as for the input frequency setting.)</td></tr>
<tr><td>Number of samples used for calculating transfer average</td><td>Specify how many samples should be used to calculate the moving average.<br>Selectable range depends upon the input frequency range.<br>Used number of data for moving average is (setting value) x (coefficient).
<table>
<tr><th>INPUT FREQUENCY RANGE</th><th>SETTABLE RANGE</th><th>COEFFICIENT</th></tr>
<tr><td>0 to ≤ 100 HZ</td><td>1 to 255</td><td>1</td></tr>
<tr><td>0 to 1 kHZ</td><td>1 to 25</td><td>10</td></tr>
<tr><td>0 to 10 kHZ</td><td>1 to 2</td><td>100</td></tr>
<tr><td>0 to 200 kHZ</td><td>1</td><td>250</td></tr>
</table></td></tr>
<tr><td>Linearization</td><td>Enable or disable the linearization table.</td></tr>
<tr><td>Threshold</td><td>Specify the threshold. Selectable within -2.000 to 4.000 (V).</td></tr>
<tr><td>Measuring freq</td><td>Monitoring the current input frequency.</td></tr>
<tr><td>Sensor excitation</td><td>Click Drop-down arrow to call a list and choose.</td></tr>
<tr><td rowspan="5">Output</td><td>Output type</td><td>Click Drop-down arrow to call a list and choose.</td></tr>
<tr><td>Output scale of 0%</td><td>Output at 0% in engineering unit</td></tr>
<tr><td>Output scale of 100%</td><td>Output at 100% in engineering unit</td></tr>
<tr><td>Fine adjustment (zero)</td><td>-5.00 to 5.00 (%)</td></tr>
<tr><td>Fine adjustment (span)</td><td>95.00 to 105.00 (%)</td></tr>
<tr><td>Linearizer</td><td>Linearization table</td><td>100 points max. A CSV file (*.csv: comma separated values) can be imported/ exported. Read/Write applied only on this tab.</td></tr>
<tr><td>Port</td><td></td><td>See 4.2.2.</td></tr>
<tr><td rowspan="6">I/O check</td><td>Output monitor & simulation output</td><td></td></tr>
<tr><td>Setting in %</td><td>Enter a value for simulated output.</td></tr>
<tr><td>Monitor in %</td><td>Setting value</td></tr>
<tr><td>Output value</td><td>Display only</td></tr>
<tr><td>Input monitor %</td><td>Display only</td></tr>
<tr><td>Input frequency</td><td>Display only</td></tr>
</table>

### 4.3.11 PC-PROGRAMMABLE SIGNAL CONDITIONERS (models M8XV2/3, M8XT2/3, M8XR2/3, M8XM2/3)

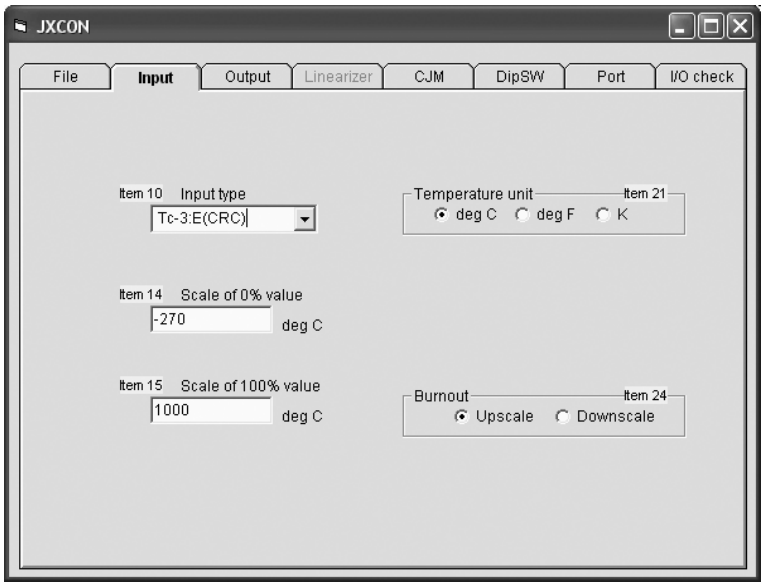
| TAB | FIELD | COMMENTS | MODEL | | | |
|---|---|---|---|---|---|---|
| | | | XV | XT | XR | XM |
| File | | See 4.2.1. | Y | Y | Y | Y |
| Input | Input type | Click Drop-down arrow to call a list and choose. | Y | Y | Y | Y |
| | Input scale 0% | Input at 0% in engineering unit | Y | Y | Y | Y |
| | Input scale 100% | Input at 100% in engineering unit | Y | Y | Y | Y |
| | Input property Min | Minimum selectable range value | Y | Y | Y | Y |
| | Input property Max | Maximum selectable range value | Y | Y | Y | Y |
| | Temperature unit | Click Drop-down arrow to call a list and choose. | | Y | Y | |
| | CJC SW | Click Drop-down arrow to call a list and choose. | | Y | | |
| | Linearization | Click Drop-down arrow to call a list and choose. | Y | | | Y |
| | Burnout | Click Drop-down arrow to call a list and choose. | | Y | Y | Y |
| Output | Output #1(#2) type | Click Drop-down arrow to call a list and choose. | Y | Y | Y | Y |
| | Output #1(#2) scale 0% | Output at 0% in engineering unit | Y | Y | Y | Y |
| | Output #1(#2) scale 100% | Output at 100% in engineering unit | Y | Y | Y | Y |
| | Output #1(#2) property Min | Minimum selectable range value | Y | Y | Y | Y |
| | Output #1(#2) property Max | Maximum selectable range value | Y | Y | Y | Y |
| Linearizer | Linearization table | 101 points max. A CSV file (*.csv: comma separated values) can be import/exported. Read/Write applied only on this tab. | Y | | | Y |
| | Size | 2 to 101 (sets of point) | Y | | | Y |
| TC TBL | TC temperature table | 300 points max. A CSV file (*.csv: comma separated values) can be imported/exported. Read/Write applied only on this tab. | | Y | | |
| | Step temp | Temperature step of the data. 1 to 10°C | | Y | | |
| | Base temp | Minimum temperature of the data (°C) | | Y | | |
| | Size | 2 to 300 (sets of point) | | Y | | |
| RTD TBL | RTD temperature table | 300 points max. A CSV file (*.csv: comma separated values) can be imported/exported. Read/Write applied only on this tab. | | | Y | |
| | Step temp | Temperature step of the data. 1 to 10°C | | | Y | |
| | Base temp | Minimum temperature of the data (°C) | | | Y | |
| | Size | 2 to 300 (sets of point) | | | Y | |
| CJM | Temperature in deg.C | Temperature compensation reference. | | Y | | |
| | Voltage | Enter new sensor data when the CJM module is replaced. | | Y | | |
| Comp. | Wire resistance comp. | Cancelling the leadwire resistance by short-circuiting the input wires. | | | Y | |
| | 0% position comp. | Calibrating the actual position as 0%. | | | | Y |
| | 100% position comp. | Calibrating the actual position as 100%. | | | | Y |
| Port | | See 4.2.2. | Y | Y | Y | Y |
| I/O check | Output monitor & simulation output | | | | | |
| | Setting in % | Enter a value for simulated output. | Y | Y | Y | Y |
| | Monitor in % | Setting value | Y | Y | Y | Y |
| | Input value monitor | Engineering unit. Display only | Y | Y | Y | Y |
| | Input value monitor % | Display only | Y | Y | Y | Y |
| | Raw input monitor | Display only | Y | Y | Y | Y |
| | CJM temperature °C | Display only | | Y | | |
| | Output #1(#2) zero adj. | -5.00 to 5.00 (%) | Y | Y | Y | Y |
| | Output #1(#2) span adj. | 95.00 to 105.00 (%) | Y | Y | Y | Y |

# 5. VIEW EXAMPLES WITH MODEL JUA UNIVERSAL TRANSMITTER

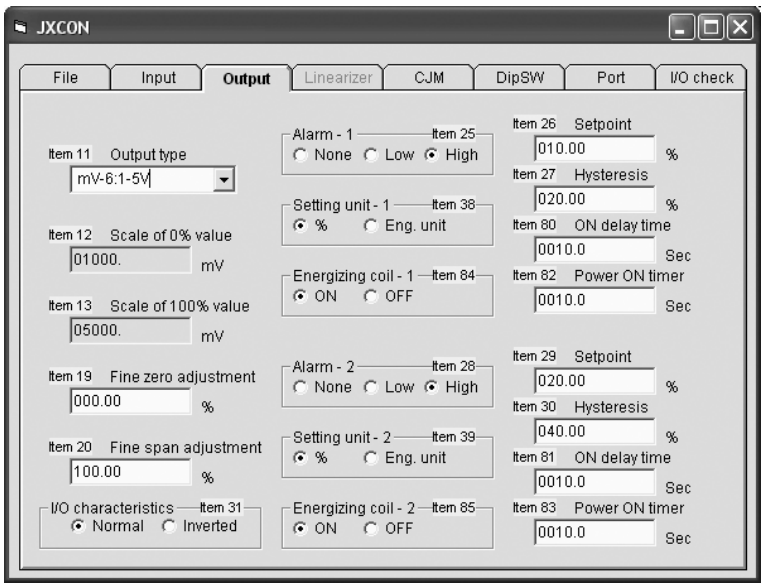
**[ File ]**



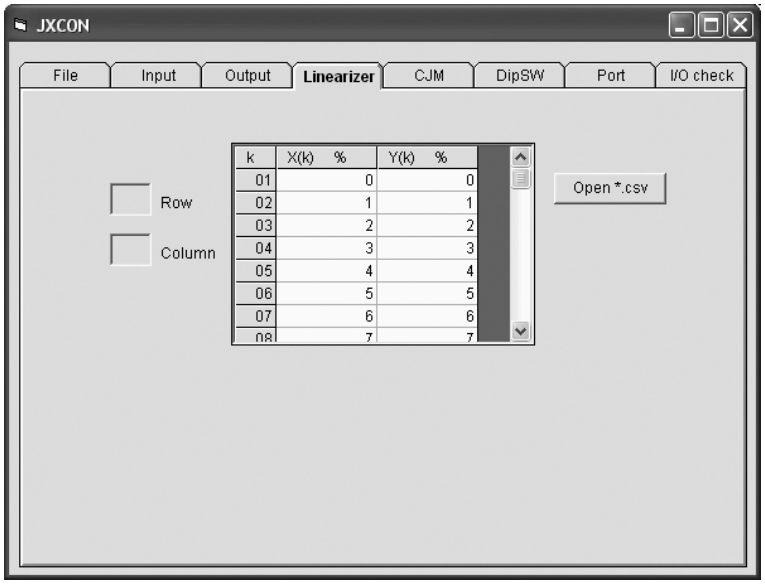

**[ Input ]**



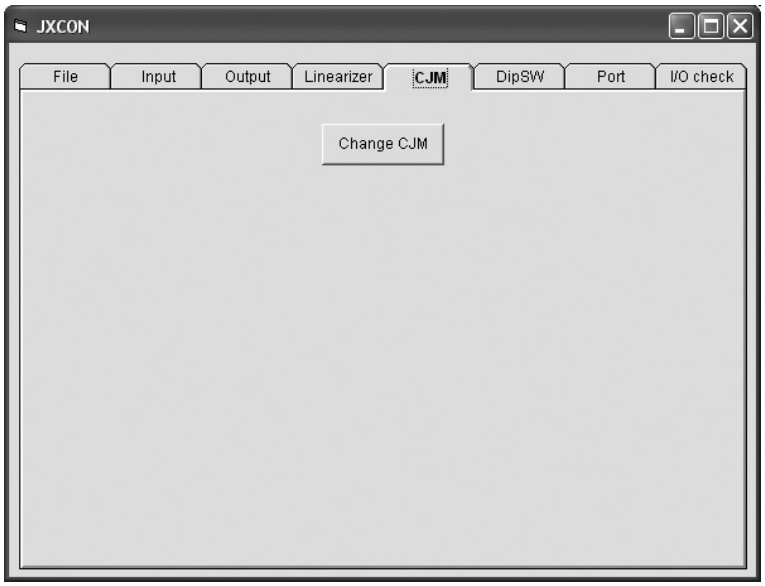
**[ Output ]**



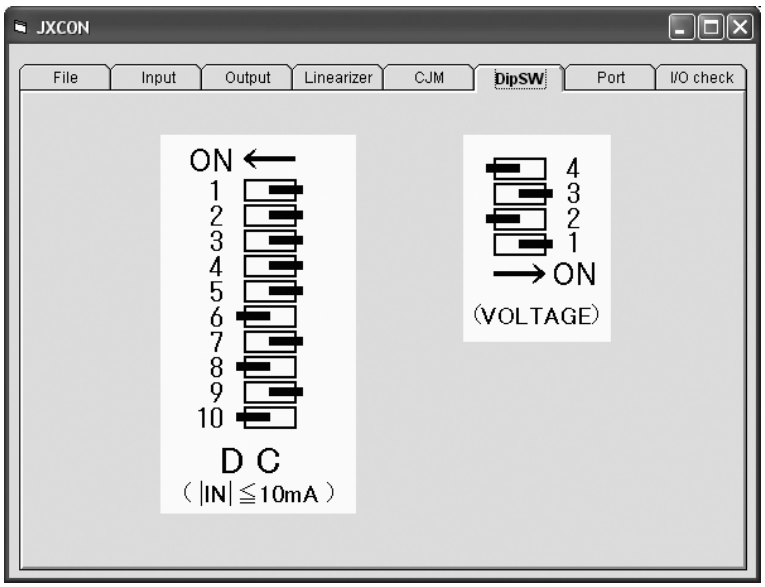

**[ Linearizer ]**



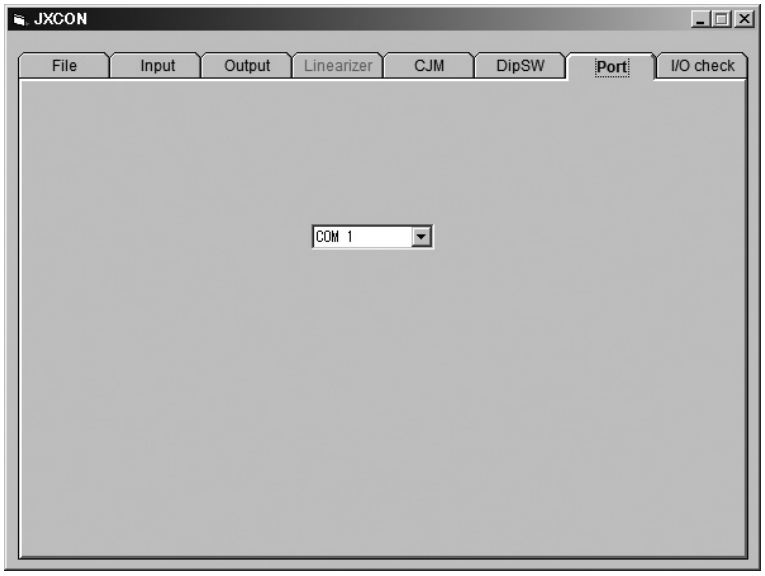

**[ CJM ]**



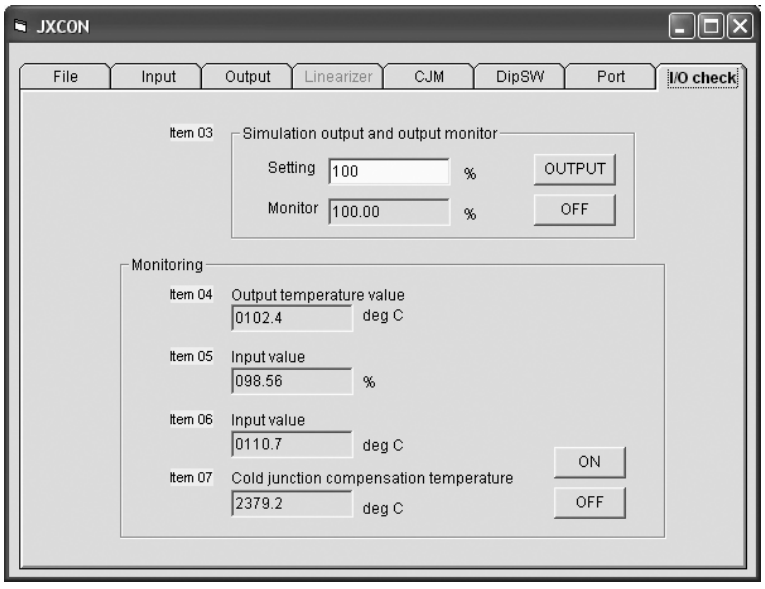
**[ DipSW ]**




**[ Port ]**



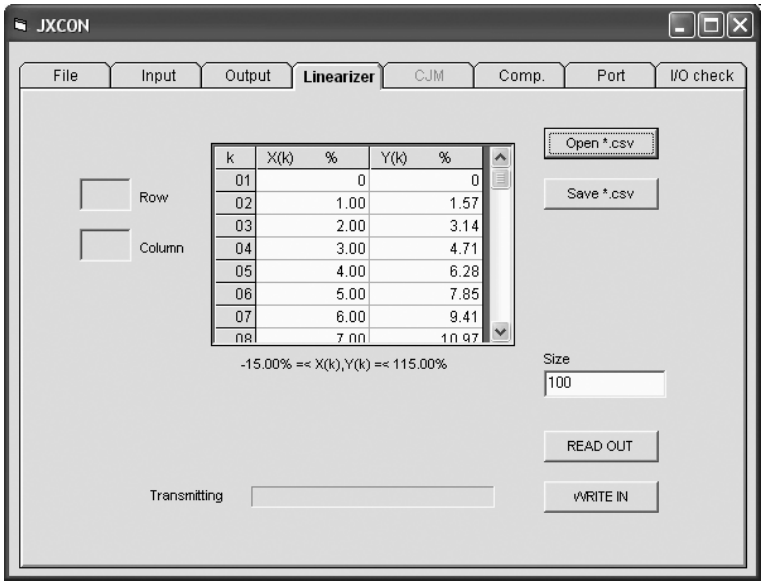

**[ I/O check ]**



# 6. NEW FUNCTIONS SUPPORTED AS OF V04.05

V04.05 newly supports models M2XPA2 and M2XPA. New tab configurations and functions are explained in this section: [Linearizer], [I/O Check] and [Input] tabs for M2XPA2, and [Input] for M2XPA.

## 6.1 M2XPA2 [Linearizer]

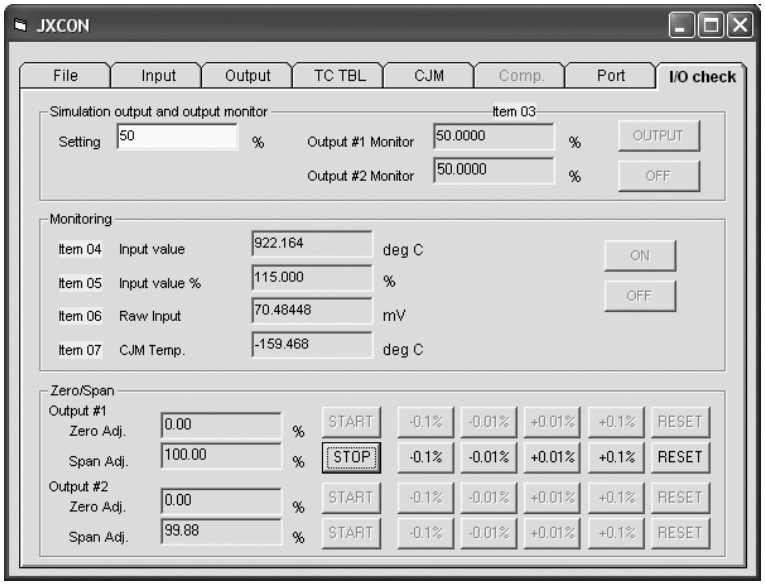



Linearization table data can be imported from/exported to a csv file.

Table Enter and display max. 100 calibration points [X(01), Y(01) through X(101), Y(101)].
Size Enter the number of calibration points.

< Open .*csv > button Reading the table data saved as comma-separated csv format.
< Save .*csv > button Saving the table data created on the screen as comma-separated csv format.
< READ OUT > button Reading the table data stored in the transmitter.
< WRITE IN > button Writing the table data contents in the transmitter.

## 6.2 M2XPA2 [I/O Check]

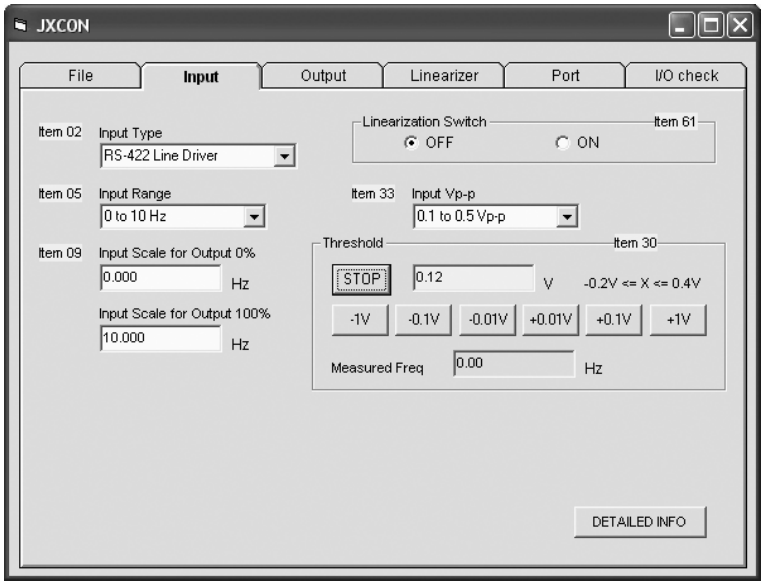



Fine Zero/Span adjustments can be performed in monitoring the I/O signals.

Zero Adj. Indicating the current fine zero adjustment value.
Span Adj. Indicating the current fine span adjustment value.

| | |
|---|---|
| < START/STOP > button | Starting/Stopping zero/span adjustments. |
| < RESET > button | Resetting the calibrated value to the default value. |
| < -0.1% > button | Adding -0.1% to the current calibrated value. |
| < -0.01% > button | Adding -0.01% to the current calibrated value. |
| < +0.01% > button | Adding 0.01% to the current calibrated value. |
| < +0.1% > button | Adding 0.1% to the current calibrated value. |

## 6.3 M2XPA2 [Input]

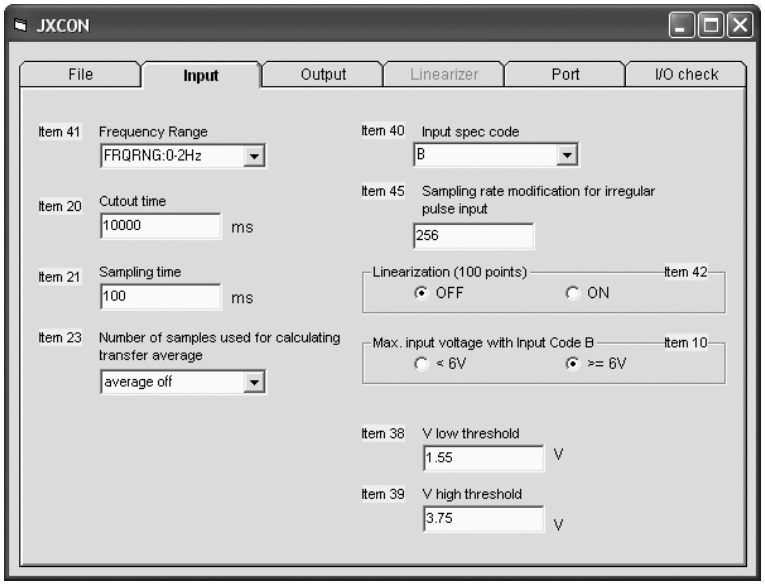



Fine adjustment of the detecting level (threshold) can be performed in monitoring the frequency input.

Threshold Indicating the current threshold value.
Measured Freq Indicating the current input frequency.

< START/STOP > button Starting/Stopping monitoring the threshold and the frequency.
< -1V > button Adding -1V to the current threshold value.
< -0.1V > button Adding -0.1V to the current threshold value.
< -0.01V > button Adding -0.01V to the current threshold value.
< +0.01V > button Adding 0.01V to the current threshold value.
< +0.1V > button Adding 0.1V to the current threshold value.
< +1V > button Adding 1V to the current threshold value.
< DETAILED INFO > button
- Cutout value setting within the full-scale input.
- Sampling rate setting within 50 msec. and 1000 msec.
- Sensor excitation setting among 4V, 8V and 12V

## 6.4 M2XPA [Input]

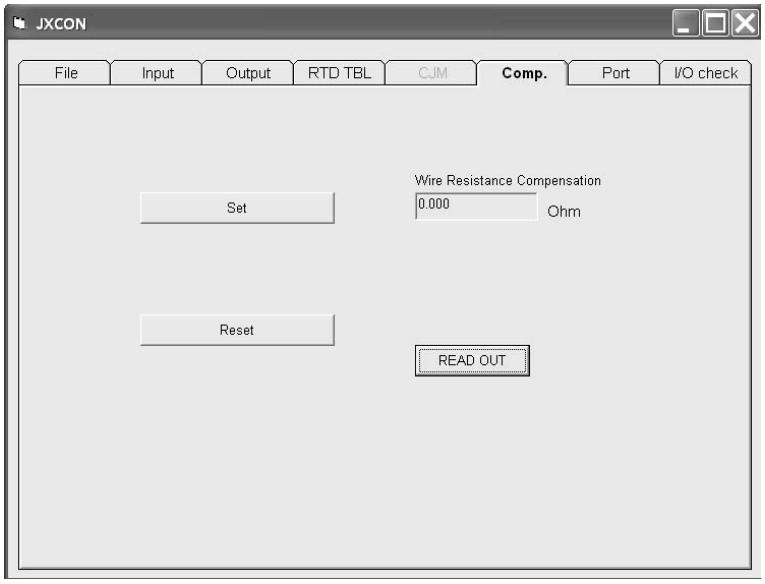



When the input suffix code “B” is selected, specify also the maximum input voltage (≥ 6V or < 6V).

# 7. NEW FUNCTIONS SUPPORTED AS OF V05.01

V05.01 newly supports models M8XV2 / M8XV3, M8XT2 / M8XT3, M8XR2 / M8XR3 and M8XM2 /M8XM3. New functional are explained in this section referring to Comp. and RTD TBL tabs as examples. For detailed information about each item and selectable range, refer to Section 4.3.

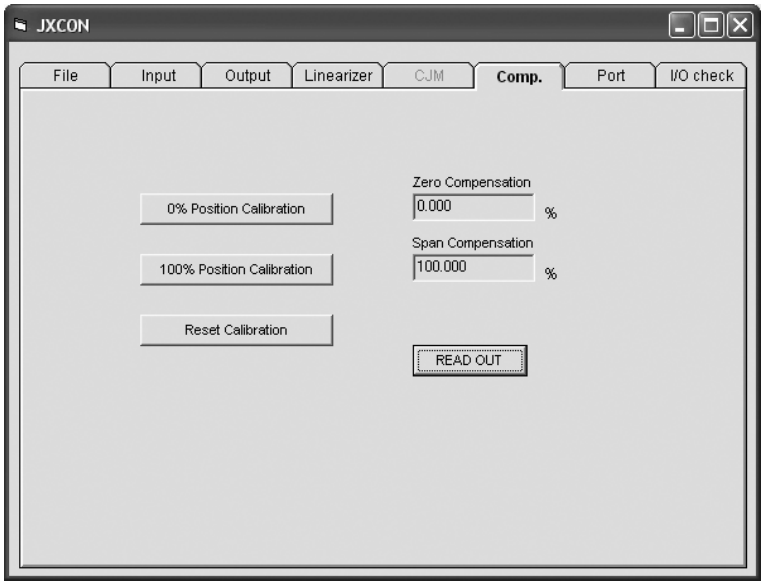
## 7.1 M8XR2 / M8XR3 [Comp.]




Sensor calibration can be performed on the Comp. tab.

| | |
|---|---|
| Wire Resistance Compensation | Indicating the current leadwire resistance compensation value. |
| < READ OUT > button | Reading the current leadwire resistance compensation value. |
| < Set > button | Calibrating the current position as 100%. |
| < Reset > button | Resetting the calibrated value to the default value. |

## 7.2 M8XM2 / M8XM3 [Comp.]

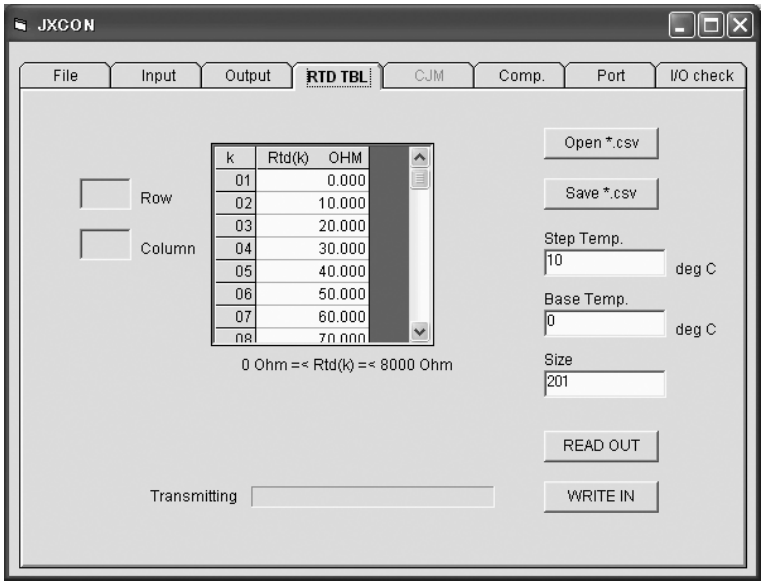



Sensor calibration can be performed on the Comp. tab.

| | |
|---|---|
| Zero Compensation | Indicating the current zero-position compensation value. |
| Span Compensation | Indicating the current span-position compensation value. |

| | |
|---|---|
| < READ OUT > button | Reading the current position compensation values. |
| < 0% Position Calibration > button | Calibrating the current position as 0%. |
| < 100% Position Calibration > button | Calibrating the current position as 100%. |
| < Reset Calibration > button | Resetting the calibrated value to the default value. |

## 7.3 M8XV2 / M8XV3, M8XM2 / M8XM3 [Linearizer], M8XT2 / M8XT3 [TC TBL], M8XR2 / M8XR3 [RTD TBL]




Linearization table data can be imported from/exported to a csv file.

| | |
|---|---|
| Linearization Table | Enter and display max. 100 calibration points [X(01), Y(01) through X(101), Y(101)]. |
| User's TC Table | Enter and display the user's temperature v.s. emf table [X(01), Y(01) through X(300), Y(300)]. |
| User's RTD Table | Enter and display the user's temperature v.s. resistance table [X(01), Y(01) through X(300), Y(300)]. |
| Step Temp | Enter the temperature step of data. |
| Base Temp | Enter the minimum temperature of data. |
| Size | Enter the number of calibration points. |

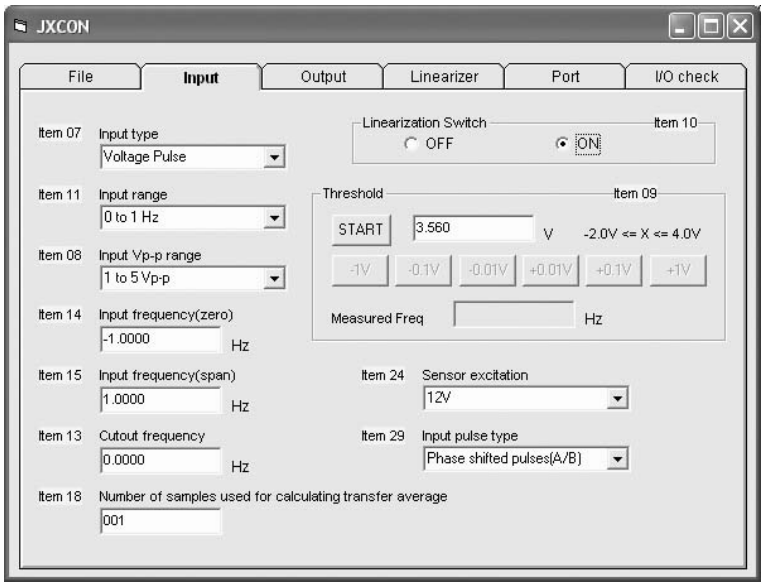
| | |
|---|---|
| < Open .*csv > button | Reading the table data saved as comma-separated csv format. |
| < Save .*csv > button | Saving the table data created on the screen as comma-separated csv format. |
| < READ OUT > button | Reading the table data stored in the transmitter. |
| < WRITE IN > button | Writing the table data contents in the transmitter. |

# 8. NEW FUNCTIONS SUPPORTED AS OF V07.01

V07.01 newly supports model M2XRP2.. New functional are explained in this section referring to Input tab as examples. For detailed information about each item and selectable range, refer to Section 4.3.

## 8.1 M2XRP2 [Input]

As a new function of the M2XRP2, the threshold value can be finely adjusted in monitoring input frequency.




Threshold Indicating the current threshold value setting.
Measured Freq Indicating the current measured input frequency.

< START > / < STOP > button Alternate button to start and stop monitoring the threshold and input frequency.
< -1V > button Decreasing the current threshold value by 1V.
< -0.1V > button Decreasing the current threshold value by 0.1V.
< -0.01V > button Decreasing the current threshold value by 0.01V.
< +0.01V > button Increasing the current threshold value by 0.01V.
< +0.1V > button Increasing the current threshold value by 0.1V.
< +0.1V > button Increasing the current threshold value by 1V.