# ORDERING INFORMATION MODEL : M6xXF2

| PLEASE FILL IN THIS SECTION | M-SYSTEM USE ONLY | |
|---|---|---|
| Model | Job No. | Approved by (Sales office) |
| Company | Ser No. | Issued by (Sales office) |
| Name | Sales | Approved by (Factory) |
| P/O No. | | Set by (Factory) |

Ser No.

**Specify the items you want to change. Default setting will be used if not specified.**

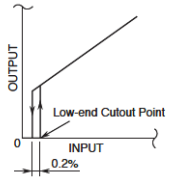
DEFAULT shows values in case of nothing specified.

■SETTING

| PARAMETER | | AVAILABLE VALUE | DEFAULT VALUE | SET VALUE | Factory Internal check |
|---|---|---|---|---|---|
| Input 1 | Low-end cutout *1 | 0.0000 ～ 99.9999 % | 0.000 % (Low-end cutout function is cancelled.) | % | ☐ Checked |
| | Input high limit *2 | 90.0000 ～ 102.0000 % | 102.0000 % | % | ☐ Checked |
| | Input low limit *2 | -2.0000 ～ 10.0000 % | -2.0000 % | % | ☐ Checked |
| Input 2 | Low-end cutout *1 | 0.0000 ～ 99.9999 % | 0.0000 % (Low-end cutout function is cancelled.) | % | ☐ Checked |
| | Input high limit *2 | 90.0000 ～ 102.0000 % | 102.0000 % | % | ☐ Checked |
| | Input low limit *2 | -2.0000 ～ 10.0000 % | -2.0000 % | % | ☐ Checked |
| Equation | Equation(See Table 1.) | ·Temperature compensation<br>·Temperature compensation (square root)<br>·Pressure compensation<br>·Pressure compensation (square root)<br>·Addtion / Subtraction<br>·Multiplication<br>·Division<br>·High selector<br>·Low selector | Addtion / Subtraction | ☐ Temperature compensation<br>☐ Temperature compensation (square root)<br>☐ Pressure compensation<br>☐ Pressure compensation (square root)<br>☐ Addtion / Subtraction<br>☐ Multiplication<br>☐ Division<br>☐ High selector<br>☐ Low selector | ☐ Checked |
| | K0 | -29.9999 ～ 29.9999 | 1.0000 | | ☐ Checked |
| | K1 | -29.9999 ～ 29.9999 | 1.0000 | | ☐ Checked |
| | K2 | -29.9999 ～ 29.9999 | 1.0000 | | ☐ Checked |
| | A0 | -299.9999 ～ 299.9999 % | 0.0000 % | % | ☐ Checked |
| | A1 | -299.9999 ～ 299.9999 % | 0.0000 % | % | ☐ Checked |
| | A2 | -299.9999 ～ 299.9999 % | 0.0000 % | % | ☐ Checked |
| Linearization *3 | | 0:Disable<br>1:Enable | 0:Disable | ☐ 0:Disable<br>☐ 1:Enable(Use the LINEARIZATION table.) | ☐ Checked |
| Filter time constant *4 | | 0 (No filter)<br>0.5 ～ 30 sec. | 0 (No filter) | Sec. | ☐ Checked |

*1. Low-end cutout

The input signals below the low end cutout point are handled as 0%.
The point has 0.2% hysteresis (deadband). The low-end cutout is applied exactly at the point when an increasing signal passes through the point, while it is applied at -0.2% of the point when a decreasing signal passes through it.
Set between 0.0000% and 99.9999%. With 0.0000% setting, the low-end cutout function is cancelled.



When the output low limit is set to a value higher than 0%, the input below the low-end cutout point is forced to the value, not 0%.

*2. Input high limit, Input low limit

The output signal is limited within the range between the high limit and the low limit.
For example , when the high limit is set to 90% and the low limit to 10%, the input signal between 90% and 102% is converted as 90%, while the input between –2% and 10% is converted as 10%.

*3. Linearization

Choose among the following:
0:Disable
1:Enable

With‘0:Disable’selected, the output % is proportional to the input %.
With‘1:Enable’selected, the calculation result is converted into the output % according a user specified table.

When you choose 1:Enable,use the LINEARIZATION table.

*4. Filter time constant

First order lag filter used. Time contact, time required for an step input to track and reach approx. 63% of the full-scale, is selectable from 0.5 to 30 seconds. No filter is applied when set to 0.

Table 1.

The following functions and parameters are selectable for the two-input function module. Input1 ($X_1$) and input2 ($X_2$) are applied with the selected function and converted Output ($X_0$).
Gains $K_0$,$K_1$ and $K_2$ are selectable within –29.9999 to 29.9999, while biases $A_0$, $A_1$ and $A_2$ are selectable within –299.9999 and 299.9999%.

| | Function | Equation |
|---|---|---|
| 1 | Temperature compensation | $X_0 = \frac{K_1X_1}{\sqrt{K_2X_2+A_2}}$<br>when $\sqrt{K_2X_2+A_2} = 0$ ,<br>$X_0 = +102$ with $K_1X_1 > 0$<br>$X_0 = 0$ with $K_1X_1 = 0$<br>$X_0 = -2$ with $K_1X_1 < 0$ |
| 2 | Temperature compensation (square root) | $X_0 = \frac{K_1\sqrt{X_1}}{\sqrt{K_2X_2+A_2}}$<br>when $\sqrt{K_2X_2+A_2} = 0$ ,<br>$X_0 = +102$ with $K_1X_1 > 0$<br>$X_0 = 0$ with $K_1X_1 = 0$<br>$X_0 = -2$ with $K_1X_1 < 0$ |
| 3 | Pressure compensation | $X_0 = K_1X_1\sqrt{K_2X_2+A_2}$ |
| 4 | Pressure compensation (square root) | $X_0 = K_1\sqrt{X_1\sqrt{K_2X_2+A_2}}$ |
| 5 | Addition / Subtraction | $X_0 = K_0\{K_1(X_1+A_1)+K_2(X_2+A_2)\}+A_0$ |
| 6 | Multiplication | $X_0 = K_0(K_1X_1+A_1)(K_2X_2+A_2)+A_0$ |
| 7 | Division | $X_0 = \frac{K_0(K_1X_1+A_1)}{(K_2X_2+A_2)}+A_0$<br>when $(K_2X_2+A_2)=0$ ,<br>$X_0 = +102$ with $K_0(K_1X_1+A_1) > 0$<br>$X_0 = A_0$ with $K_0(K_1X_1+A_1) = 0$<br>$X_0 = -2$ with $K_0(K_1X_1+A_1) < 0$ |
| 8 | High selector | $X_0 = X_1$ when $X_1 \geqq X_2$<br>$X_0 = X_2$ when $X_1 < X_2$ |
| 9 | Low selector | $X_0 = X_2$ when $X_1 \geqq X_2$<br>$X_0 = X_1$ when $X_1 < X_2$ |

$-n$ is applied without root extraction with $n < 0$ in $\sqrt{n}$ .

## ■LINEARIZATION

Specify the input & output values and the units.
X[n] = Input Value of n-th (mA, V, %)
Y[n] = Output Value of n-th (mA, V, %)
-2% ≤ X[n] ≤ 102%,  -2% ≤ Y[n] ≤ 102%,  X[n] < X[n+1]

| Factory Internal check |
|---|
| ☐ Checked |

| n | X (UNIT: ) | Y (UNIT: ) | n | X | Y |
|---|---|---|---|---|---|
| 0 | | | 25 | | |
| 1 | | | 26 | | |
| 2 | | | 27 | | |
| 3 | | | 28 | | |
| 4 | | | 29 | | |
| 5 | | | 30 | | |
| 6 | | | 31 | | |
| 7 | | | 32 | | |
| 8 | | | 33 | | |
| 9 | | | 34 | | |
| 10 | | | 35 | | |
| 11 | | | 36 | | |
| 12 | | | 37 | | |
| 13 | | | 38 | | |
| 14 | | | 39 | | |
| 15 | | | 40 | | |
| 16 | | | 41 | | |
| 17 | | | 42 | | |
| 18 | | | 43 | | |
| 19 | | | 44 | | |
| 20 | | | 45 | | |
| 21 | | | 46 | | |
| 22 | | | 47 | | |
| 23 | | | 48 | | |
| 24 | | | 49 | | |
| n | X | Y | n | X | Y |

| | | | | | |
|---|---|---|---|---|---|
| 50 | | | 75 | | |
| 51 | | | 76 | | |
| 52 | | | 77 | | |
| 53 | | | 78 | | |
| 54 | | | 79 | | |
| 55 | | | 80 | | |
| 56 | | | 81 | | |
| 57 | | | 82 | | |
| 58 | | | 83 | | |
| 59 | | | 84 | | |
| 60 | | | 85 | | |
| 61 | | | 86 | | |
| 62 | | | 87 | | |
| 63 | | | 88 | | |
| 64 | | | 89 | | |
| 65 | | | 90 | | |
| 66 | | | 91 | | |
| 67 | | | 92 | | |
| 68 | | | 93 | | |
| 69 | | | 94 | | |
| 70 | | | 95 | | |
| 71 | | | 96 | | |
| 72 | | | 97 | | |
| 73 | | | 98 | | |
| 74 | | | 99 | | |
| | | | 100 | | |