

Arithmetical instruction

|                |  |                |
|----------------|--|----------------|
| FUN32<br>ADCNV | Converting the raw value of 4~20mA analog input<br>(ADCNV) | FUN32<br>ADCNV |
|----------------|--|----------------|

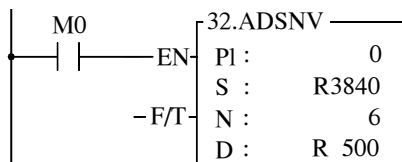


|               |             |                |                |             |      |
|---------------|-------------|----------------|----------------|-------------|------|
| Range<br>Ope- | HR          | IR             | ROR            | DR          | K    |
|               | R0<br>R3839 | R3840<br>R3903 | R5000<br>R8071 | D0<br>D3071 |      |
| PI            |             |                |                |             | 0~1  |
| S             | ○           | ○              | ○              | ○           |      |
| N             | ○           |                | ○              | ○           | 1~64 |
| D             | ○           |                | ○*             | ○           |      |

PI : 0, the polarity setting of analog input module is at unipolar position  
 : 1, the polarity setting of analog input module is at bipolar position  
 S : Starting address of source registers  
 N : Quantity of conversion (In Word)  
 D : Starting address of destination registers  
 S, N, D may associate with V · Z index register to serve the indirect addressing application.

- When the analog input is 4~20mA, the analog input module FB-6AD is one of the solution to get this kind of signal, but the input span of FB-6AD is 0~20mA (Setting at 10V · Unipolar), however there will exist the offset of the raw reading value; this instruction is applied to eliminate the offset and convert the raw reading value into the range of 0~4095, it is more convenient for following operation.
- When execution control "EN" =1, it will execute the conversion starting from S, length by N, and then store the results into the D registers.
- This instruction will not act if invalid length of N.
- When the input "F/T" =0, it assigns the 12-bit analog input module; while "F/T" =1, it assigns the 14-bit analog input module (Reserved for future).

Example :



Description : When M0 is ON, it will perform 6 points of conversion starting from R3840, where the offset of 4~20mA raw reading value will be eliminated, and the corresponding value 0~4095 will be stored into R500~R505.

|       |        |      |              |
|-------|--------|------|--------------|
| S     |        | D    |              |
| R3840 | - 1229 | R500 | 0 (4 mA)     |
| R3841 | 409    | R501 | 2047 (12 mA) |
| R3842 | 2047   | R502 | 4095 (20 mA) |
| R3843 | - 2048 | R503 | 0 (0 mA)     |
| R3844 | - 2048 | R504 | 0 (0 mA)     |
| R3845 | - 2048 | R505 | 0 (0 mA)     |