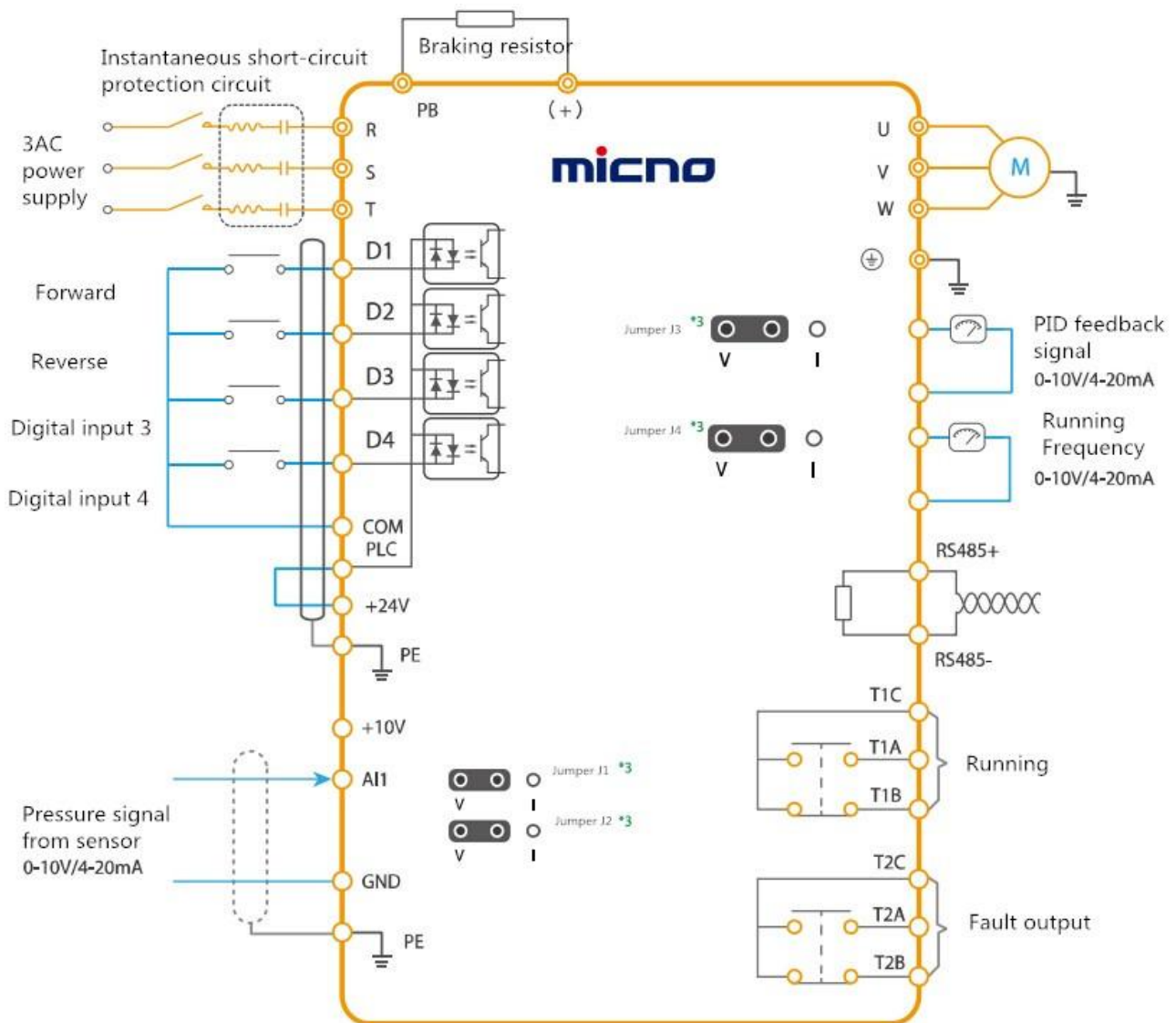# KE300 PID Parameters Setting For Water Supply Application

This article introduces the procedure of PID setting by the example of water supply application. Achieve and Dormancy functions are serviced for PID function.

System diagram: Please find the schematic diagram of water supply in the below, users can make the change accordingly.

1. It is suggested to use shield cable as the control signal cable, and connect ground with one terminal.

2. Users can change function definition of digital input/output and analog output, the above diagram only for reference.

3. Jumper J1 is used to change the signal type (voltage or current) of analog input AI1;

   Jumper J2 is used to change the signal type (voltage or current) of analog input AI2;

   Jumper J3 is used to change the signal type (voltage or current) of analog output AO1;

   Jumper J4 is used to change the signal type (voltage or current) of analog output AO2;

Parameter setting would be introduced with the following solution as an example:

The measure range of pressure meter is 20.0bar, water supply pressure is required to keep at 8.0bar, dormancy frequency is 30.00Hz, and wake up pressure threshold value is 7.0bar.

Main frequency selection A

PID control : P0-03=8

PID given feedback range PA-04=20 Set according to the actual range of

pressure meter

PID keypad given PA-01=8 Set according to the actual required pressure

PID stop calculation selection PA-28=1 PID still calculates when stop

Wake up threshold value P8-49=7.0, Set according to the wake up pressure

Dormancy frequency P8-51=30.00 , Set according to dormancy frequency

Notes:

1. KE300 PID function control the motor go into dormancy is based on frequency value, to wake up the motor is based on the physical quantity (pressure, temperature, speed etc.).

2. The above diagram is a typical setting procedure of PID application, which is a reference for other physical control quantity applications.

3. In normal applications, please use the factory default PID function parameters.

4. When the adjusted physical quantity fluctuates obviously, please refer to 《KE300 User's Manual》 to adjust PID function parameters.

5. The analog input/output signals of KE300 can be changed to voltage and current signals, it should be corresponded to jumper switching. Please pay attention to the mark of jumper during using.

6. Pressure sensor power supply can be the +10V power supply from KE300, or external +10V power supply, but the selected signal must

meet the safety requirements of the analog input terminal. Please refer to KE300 user's manual for more information.

7. If you want the inverter be dormancy at low frequency, please set following parameters:

P0-14= cut-off frequency

P8-14=2