

FUN 86 TPCTL	Convenient instruction of PID temperature control proper to FB-4AJ(K)xx module	FUN 86 TPCTL																
<div>Program example</div> <div>In following examples, the main unit is FBx-28MC(A), and the FB-4AK24 temperature module is attached ; the setting of the input span and polarity is 0~10V.</div>																		
<div>Program example 1</div> <div><div><div>M0</div><div>● When M0=ON, to measure the temperature of 1<sup>st</sup> ~ 24<sup>th</sup> (Zn=24) point of K-type thermocouple inputs and store the engineering values of measurement into R0~R23; also, store the primitive values into R3968~R3991.</div><div>● When there is line broken in K-type thermocouple, M1 will be ON and the line broken value of this point will be displayed.</div></div><div><div>M0</div><div>● When M0=1, M1000~M1023 tells the status of line broken of corresponding sensor.</div></div></div> <div><div>85.TPSNS</div><table><tr><td>Tp :</td><td>0</td></tr><tr><td>Pl :</td><td>0</td></tr><tr><td>Zn :</td><td>24</td></tr><tr><td>Yn : Y</td><td>12</td></tr><tr><td>SR : R</td><td>0</td></tr><tr><td>WR: R</td><td>50</td></tr></table><div>ERR—</div><div>ALM—M1 ( )</div></div> <div><div>08D.MOV</div><table><tr><td>S : R</td><td>50</td></tr><tr><td>D : WM</td><td>1000</td></tr></table></div>			Tp :	0	Pl :	0	Zn :	24	Yn : Y	12	SR : R	0	WR: R	50	S : R	50	D : WM	1000
Tp :	0																	
Pl :	0																	
Zn :	24																	
Yn : Y	12																	
SR : R	0																	
WR: R	50																	
S : R	50																	
D : WM	1000																	

FUN 86 TPCTL	Convenient instruction of PID temperature control proper to FB-4AJ(K)xx module	FUN 86 TPCTL
	<div data-bbox="268 376 1327 1008"> <p>             ● When M2=ON, it will perform the PID heating control of 20 (Zn=20) points from the 1<sup>st</sup> (Sn=0) point to the 20<sup>th</sup> point.              ● Y40~Y49: PID ON/OFF (PWM) output; it must be the transistor output.              ● R100~R119: Registers of set point.              ● R120~R139: Registers of deviation zone, it determines whether the temperature falls in setting range.                E.g. Set point is 200 and deviation zone is 5, then <math>195 \leq \text{Current value} \leq 205</math> means the temperature is in zone.              ● R140~R159: Setting point of gain (Kc).              ● R160~R179: Setting point of integral tuning constant (Ti).              ● R180~R199: Setting point of derivative tuning constant (Td).              ● R200~R219: Output of PID calculation (value from 0~4095).              ● R220~R228: Working registers              ● When one of the temperatures is not in zone, or there exists highest temperature warning or heating circuit opened, the status of M3 will be ON.           </p> </div> <div data-bbox="268 1030 1157 1220"> <p>             ● When M2=ON, the M1024~M1043 tells the point which temperature is in zone, and M1048~M1067 tells the point which has highest temperature warning or heating circuit opened.           </p> </div> <div data-bbox="268 1232 1241 1769"> <p>             ● When M4=ON, it will perform the PID cooling control of 3 (Zn=3) points from the 21<sup>st</sup> (Sn=20) point to the 23<sup>rd</sup> point.              ● Y58~Y60: PID ON/OFF (PWM) output; it must be the transistor output.              ● R300~R302: Registers of set point.              ● R305~R307: Registers of deviation zone, it determines whether the temperature falls in setting range.                E.g. Set point is 200 and deviation zone is 5, then <math>195 \leq \text{Current value} \leq 205</math> means the temperature is in zone.              ● R310~R312: Setting point of gain (Kc).              ● R315~R317: Setting point of integral tuning constant (Ti)              ● R320~R322: Setting point of derivative tuning constant (Td).              ● R325~R327: Output of PID calculation (value from 0~4095).              ● R330~R338: Working registers.           </p> </div>	<p>             86.TPCTL              Yn : Y    30              Sn :       0              Zn :       20              Sv : R    100              Os : R    120              PR : R    140              IR : R    160              DR : R    180              OR : R    200              WR : R    220           </p> <p>ERR —</p> <p>ALM — ( ) M3</p> <p>08D.MOV</p> <p>S : R    220</p> <p>D : WM1024</p> <p>08D.MOV</p> <p>S : R    222</p> <p>D : WM1048</p> <p>86.TPCTL</p> <p>Yn : Y    58              Sn :       20              Zn :       3              Sv : R    300              Os : R    305              PR : R    310              IR : R    315              DR : R    320              OR : R    325              WR : R    330</p> <p>ERR —</p> <p>ALM —</p>

Note: When performing the instruction of the first time, the FUN86 will automatically assign to each point its system default for gain (Kc), integral tuning constant (Ti), and derivative tuning constant (Td), etc. They may be changed if necessary.

FUN 86 TPCTL	Convenient instruction of PID temperature control proper to FB-4AJ(K)xx module	FUN 86 TPCTL
<div>Program example 2</div> <div><div><div><div>M0</div><div>● When M0=ON, to measure the temperature of 1<sup>st</sup> ~ 24<sup>th</sup> (Zn=24) point of K-type thermocouple inputs and store the engineering values of measurement into R0~R23; also, store the primitive values into R3968~R3991.</div><div>● When there is line broken in K-type thermocouple, M1 will be ON and the line broken value of this point will be displayed.</div></div><div><div>85.TPSNS</div><div><div>Tp : 0</div><div>Pl : 0</div><div>Zn : 24</div><div>Yn : Y 12</div><div>SR : R 0</div><div>WR: R 50</div></div><div><div>ERR—</div><div>ALM—( )</div></div></div></div><div><div><div>M0</div><div>● When M0=1, M1000~M1023 tells the status of line broken of corresponding sensor.</div></div><div><div>08D_.MOV</div><div><div>S : R 50</div><div>D : WM1000</div></div></div></div></div>		

