DIGIQUAL SYSTEMS
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V. PARAMETER AND SETTING

<table>
<tr><th>Parameter</th><th>Title</th><th>Description</th><th>Range</th></tr>
<tr><td colspan="4">Field Parameter Table (Press and hold ← for 2 seconds to access)</td></tr>
<tr><td>HIA</td><td>High limit alarm</td><td>Alarm on when PV (Process Value) >HIA;
alarm off when PV<HIA-AHY</td><td>0～999℃</td></tr>
<tr><td>LoA</td><td>Lower limit alarm</td><td>Alarm on when PV (Process Value) < LoA;
alarm off when PV > LoA+AHY</td><td>0～999℃</td></tr>
<tr><td>HdA</td><td>Deviation high alarm</td><td>Alarm on when PV-SV>HdA;
alarm off when PV-SV<HdA-AHY</td><td>0～999℃</td></tr>
<tr><td>LdA</td><td>Deviation low alarm</td><td>Alarm on when PV-SV<LdA;
alarm off when PV-SV>LdA+AHY</td><td>0～999℃</td></tr>
<tr><td>Loc</td><td>Parameter lock</td><td>Loc=0: Allowed to change HIA, LoA, HdA, LdA and SV.
Loc=1: Allowed to read only HIA, LoA, HdA, LdA but to change SV.
Loc=2~3: Allowed to change HIA, LoA, HdA. LdA but read only SV.
Loc=4~255: NOT allowed to change any parameters nor SV.
Loc=808, Set to 808 and press ←to unlock the System Parameter Table.</td><td>0～255</td></tr>
<tr><td colspan="4">System Parameter Table (Loc=808 to unlock)</td></tr>
<tr><td>AHY</td><td>Alarm Hysteresis</td><td>Avoid frequent alarm on-off action because of the fluctuation of PV
AHY=2 by default.</td><td>0~200</td></tr>
<tr><td>AOP</td><td>Alarm output assignment</td><td>
<table>
<tr><th></th><th colspan="2">HdA & LdA
(x100)</th><th></th><th>LoA
(x10)</th><th></th><th>HIA
(x1)</th></tr>
<tr><td>0</td><td>◈</td><td>◈</td><td>0</td><td>◈</td><td>0</td><td>◈</td></tr>
<tr><td>1</td><td>AU1</td><td>◈</td><td>1</td><td>AU1</td><td>1</td><td>AU1</td></tr>
<tr><td>2</td><td>AU2</td><td>◈</td><td>2</td><td>AU2</td><td>2</td><td>AU2</td></tr>
<tr><td>5</td><td>AU1</td><td>AU1</td><td></td><td></td><td></td><td></td></tr>
<tr><td>6</td><td>AU2</td><td>AU1</td><td></td><td></td><td></td><td></td></tr>
<tr><td>7</td><td>◈</td><td>AU1</td><td></td><td></td><td></td><td></td></tr>
<tr><td>8</td><td>◈</td><td>AU2</td><td></td><td></td><td></td><td></td></tr>
<tr><td>9</td><td>AU1</td><td>AU2</td><td></td><td></td><td></td><td></td></tr>
</table>
Example: AOP=901 refers to HdA assigned to AU1, LdA to AU2, without LoA and HIA to AU1.</td><td>0~922</td></tr>
<tr><td>CrL</td><td>Control mode</td><td>⌘ onF : ON-OFF control. When PV>SV, output stops and heating stops. When PV<SV-AHY, output resumes.
⌘ AI : AI-PID control. The output time proportion can adjusted by parameter Ctl</td><td></td></tr>
<tr><td>Act</td><td>Acting method</td><td>rE: Reverse acting. Increase in measured variable causes a decrease in the output, such as heating control.
dr: Direct acting. Increase in measured variable causes an increase in the output, such as refrigerating control.
rEb: Reverse acting with low limit alarm and deviation low alarm blocking at the beginning of power on.
drb: Direct acting with high limit alarm and deviation high alarm blocking at the beginning of power on.</td><td>rE , dr ,
rEb, drb</td></tr>
<tr><td>P</td><td>Proportion band</td><td>Proportion band in PID with unit ℃or ℉ but not the percentage of the input scale.</td><td>1~999</td></tr>
<tr><td>I</td><td>Time of integral</td><td>Time of integral in PID. No integral effect when I=0</td><td>0~999 sec</td></tr>
<tr><td>d</td><td>Time of derivative</td><td>Time of derivative in PID with unit 0.1 second. No derivative effect when d=0</td><td>0~999 sec</td></tr>
</table>

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Ctl	Control period	Smaller value will result in higher control accuracy. For SSR output, generally 0.5 to 3 seconds. For Relay output, generally 15 to 40 seconds, because small value will cause the frequent On-Off of mechanical switch and shorten its service life. Ctl is recommended to be 1/4 – 1/10 of derivative time. When control under on-off control, Ctl is used as delay time to restart to protect the compressor.	0.5-300 sec
CHY	Control hysteresis	To avoid frequent relay on-off action, in ON-OFF control mode. PV > SV, Output turns OFF (Relay opens) PV < SV-CHY, Output turns ON (Relay closes)	0~200
InP	Input specification	<table><tr><td></td><td>Thermocouples & RTD</td></tr><tr><td>0</td><td>*K*</td></tr><tr><td>4</td><td>*E*</td></tr><tr><td>5</td><td>*J*</td></tr><tr><td>7</td><td>*N*</td></tr><tr><td>21</td><td>*Pt100*</td></tr></table>	0～21
dPt	Resolution	0 or 0.0 selectable. 0.0 is valid for 0~99.9 ℃ / ℉ display	
Scb	Input shift	Scb is used to make input shift to compensate the error produced by sensor or input signal. PV after compensation= PV before compensation + Scb.	-99～+99℃
FIL	PV input filter	Higher degree of FIL gives more powerful noise filtering. Large FIL value stabilized the input signal but the system response speed will be slow. Generally speaking, 1 to 3 will be used. If great interference exists, FIL can be gradually increase to limit the momentary fluctuation among 2 to 5 unit. When the instrument is being metrological verified, FIL should be set to 0 or 1 to minimize the response time.	0～40
Fru	Selection of power frequency and temperature scale	50C: 50Hz, ℃ 50F: 50Hz, ℉ 60C: 60Hz, ℃ 60F: 60Hz, ℉	
SPH	Upper limit of SV	Maximum value that SV allowed to be. When SPH=400, the SV range will 0~400℃	0～999℃