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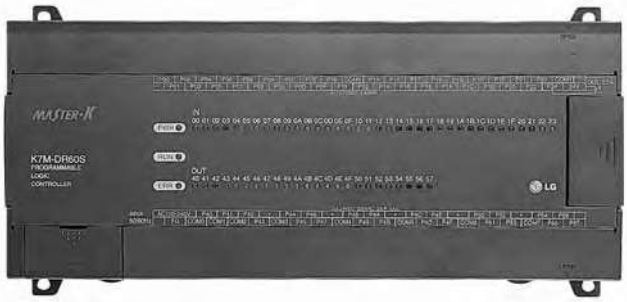
User Manual

MASTER-K80S

LS Programmable Logic Controller



Safety Instructions

- Read this manual carefully before installing, wiring, operating, servicing or inspecting this equipment.
- Keep this manual within easy reach for quick reference.

LS Industrial Systems

www.lsis.biz

2.2.2 K80S Series System Equipment

Section	Items	Models	Description	Remark
Basic	Base Unit	K7M-DR10S K7M-DR10S/DC K7M-DT10S	• I/O Points - 6 DC inputs / 4 relay outputs (K7M-DR10S, K7M-DR10S/DC) - 6 DC inputs / 4 TR outputs (K7M-DT10S) • Program capacity : 48 kbytes • Built-in function -High-speed counter : Phase1 16 kHz, phase2 8 kHz 1channel -pulse output : 1 × 2 kHz -pulse catch : pulse width 0.2ms, 4 points -external contact point interrupt: 0.4ms, 8points -input filter: 0 ~ 15ms (all input) -PID control function -RS-232C communication, RS-485 communication	
		K7M-DR20S K7M-DR20S/DC K7M-DT20S	• I/O Points - 12 DC inputs / 8 relay outputs (K7M-DR20S, K7M-DR20S/DC) - 12 DC inputs / 8 TR outputs (K7M-DT20S) • Program capacity : 48 kbytes • Built-in function -High-speed counter : Phase1 16 kHz, phase2 8 kHz 1channel -pulse output : 1 × 2 kHz -pulse catch : pulse width 0.2ms, 4 points -external contact point interrupt: 0.4ms, 8points -input filter: 0 ~ 15ms (all input) -PID control function -RS-232C communication	
		K7M-DR30S K7M-DR30S/DC K7M-DT30S	• I/O Points - 18 DC inputs / 12 relay outputs (K7M-DR30S, K7M-DR30S/DC) - 18 DC inputs / 12 TR outputs (K7M-DT30S) • Program capacity : 48 kbytes • Built-in function -High-speed counter : Phase1 16 kHz, phase2 8 kHz 1channel -pulse output : 1 × 2 kHz -pulse catch : pulse width 0.2ms, 4 points -external contact point interrupt: 0.4ms, 8points -input filter: 0 ~ 15ms (all input) -PID control function -RS-232C communication	

Section	Items	Models	Description	Remark
Basic	Base Unit	K7M-DR40S K7M-DR40S/DC K7M-DT40S	• I/O Points - 24 DC inputs / 16 relay outputs (K7M-DR40S, K7M-DR40S/DC) - 24 DC inputs / 16 TR outputs (K7M-DT40S) • Program capacity : 48 kbytes • Built-in function -High-speed counter : Phase1 16 kHz, phase2 8 kHz 1channel -pulse output : 1 × 2 kHz -pulse catch : pulse width 0.2ms, 4 points -external contact point interrupt: 0.4ms, 8points -input filter: 0 ~ 15ms (all input) -PID control function -RS-232C communication	
		K7M-DR60S K7M-DR60S/DC K7M-DT60S	• I/O Points - 36 DC inputs / 24 relay outputs (K7M-DR60S, K7M-DR60S/DC) - 36 DC inputs / 24 TR outputs (K7M-DT60S) • Program capacity : 48 kbytes • Built-in function -High-speed counter : Phase1 16 kHz, phase2 8 kHz 1channel -pulse output : 1 × 2 kHz -pulse catch : pulse width 0.2ms, 4 points -external contact point interrupt: 0.4ms, 8points -input filter: 0 ~ 15ms (all input) -PID control function -RS-232C communication	
Expansion module	Digital I/O module	G7E-DR10A	• I/O points -6 DC inputs / 4 relay outputs	
	A/D-D/A Composite module	G7F-ADHA	• A/D : 2 channel , D/A : 1 channel	
	A/D conversion module	G7F-AD2A	• A/D : 4 channel	
	Analog timer module	G7F-AT2A	• Points : 4points • Digital output range : 0~200	
	Communication I/F module	G7L-CUEB	• RS-232C : 1 channel	
		G7L-CUEC	• RS-422 : 1 channel	
		G7L-DBEA	• DeviceNet I/F module	
		G7L-FUEA	• FieldBus I/F module	
		G7L-PBEA	• Profibus I/F module	

Chapter 3. General Specifications

3.1 General specifications

The following shows the general specifications of the MASTER-K series.

<table>
<tr><th>No.</th><th>Item</th><th colspan="6">Specifications</th><th>References</th></tr>
<tr><td>1</td><td>Operating ambient Temperature</td><td colspan="6">0 ~ 55 °C</td><td></td></tr>
<tr><td>2</td><td>Storage ambient Temperature</td><td colspan="6">–25 ~ +70 °C</td><td></td></tr>
<tr><td>3</td><td>Operating ambient Humidity</td><td colspan="6">5 ~ 95%RH, non-condensing</td><td></td></tr>
<tr><td>4</td><td>Storage ambient Humidity</td><td colspan="6">5 ~ 95%RH, non-condensing</td><td></td></tr>
<tr><td rowspan="8">5</td><td rowspan="8">Vibrations</td><td colspan="4">Occasional vibration</td><td colspan="2">-</td><td></td></tr>
<tr><td>Frequency</td><td colspan="2">Acceleration</td><td>Amplitude</td><td colspan="2">Sweep count</td><td rowspan="7">IEC 61131-2</td></tr>
<tr><td>10 ≤ f < 57Hz</td><td colspan="2">–</td><td>0.075mm</td><td colspan="2" rowspan="5">10 times for each X, Y, Z axis</td></tr>
<tr><td>57 ≤ f ≤ 150Hz</td><td colspan="2">9.8m/s² {1G}</td><td>–</td></tr>
<tr><td colspan="4">Continuous vibration</td></tr>
<tr><td>Frequency</td><td colspan="2">Acceleration</td><td>Amplitude</td></tr>
<tr><td>10 ≤ f < 57Hz</td><td colspan="2">–</td><td>0.035mm</td></tr>
<tr><td>57 ≤ f ≤ 150Hz</td><td colspan="2">4.9m/s² {0.5G}</td><td>–</td></tr>
<tr><td>6</td><td>Shocks</td><td colspan="6">• Maximum shock acceleration: 147 m/s² {15G}
• Duration time: 11ms
• Pulse wave: half sine pulse (3 shocks per axis, on X, Y, Z axis)</td><td>IEC 61131-2</td></tr>
<tr><td rowspan="5">7</td><td rowspan="5">Noise Immunity</td><td>Square wave Impulse noise</td><td colspan="5">± 1,500 V</td><td>LGIS' Internal Standard</td></tr>
<tr><td>Electronic discharge</td><td colspan="5">Voltage: 4 kV (Discharge by contact)</td><td>IEC 61131-2, IEC 1000-4-2</td></tr>
<tr><td>Radiated electromagnetic field noise</td><td colspan="5">27 ~ 500 MHz, 10 V/m</td><td>IEC 61131-2, IEC 1000-4-3</td></tr>
<tr><td rowspan="2">Fast transient & burst noise</td><td>Item</td><td>Power supply</td><td>Digital I/O (>24V)</td><td colspan="2">Digital I/O (<24V) Analog I/O Interface</td><td rowspan="2">IEC 61131-2 IEC 1000-4-4</td></tr>
<tr><td>Voltage</td><td>2kV</td><td>1kV</td><td colspan="2">0.25kV</td></tr>
<tr><td>8</td><td>Atmosphere</td><td colspan="6">Free of corrosive gases and excessive dust</td><td>IEC61131-2</td></tr>
<tr><td>9</td><td>Altitude</td><td colspan="6">Up to 2,000m</td><td></td></tr>
<tr><td>10</td><td>Pollution degree</td><td colspan="6">2</td><td></td></tr>
<tr><td>11</td><td>Cooling method</td><td colspan="6">Air-cooling</td><td></td></tr>
</table>

REMARK

1) IEC (International Electrotechnical Commission): An international civilian institute who establishes international standards in area of electric and electronics.
2) Pollution degree: An indicator, which indicates pollution degree, which determine insulation performance of equipment.
Pollution degree 2 : Normally, only non-conductive pollution occurs. Occasionally, however, a temporary conductivity caused by condensation shall be expected.