

KNC-PLC-K523 - Discrete I/O Expansion



FEATURES

- **4 Inputs and 4 Outputs or 8 Inputs and 8 Outputs**
- **Inputs Can be Configured to Sink or Source**
- **Transistor or Relay Outputs**
- **Inputs are Opto-Isolated**
- **Transistor Outputs are Opto-Isolated**
- **LED Display to Monitor Running Conditions**
- **Easy Maintenance and Installation**



DESCRIPTION

The KNC-PLC-K523 Discrete Input and Output Expansion Modules are offered in Transistor or Relay outputs and sinking or sourcing inputs. These units come with 4 inputs and 4 outputs or 8 inputs and 8 outputs. These units are ideal to expand beyond the onboard inputs and outputs of the KNC-PLC-K5 CPUs, which can handle up to 136 I/O points with a maximum of 6 expansion modules. The inputs are rated for 3.5 mA and can be configured for either sourcing or sinking. The transistor outputs are rated for 500 mA @ 24 Vdc and come only in a sourcing configuration. The relay outputs are rated for 2 A @ 30 Vdc or 250 Vac, and are great for switching on and off high load devices AC or DC devices, particularly AC or DC motors. The transistor output modules are opto-isolated for unit protection.

SPECIFICATIONS

Model #	Input Points	Input Type	Output Points	Output Type	Input Voltage	Input Current	Output Voltage	Output Current
KNC-PLC-K523-16DR	8	Sinking or Sourcing	8	Relay	Max 24 Vdc	3.5 mA	Max 30 Vdc or 250 Vac	Max 2 A
KNC-PLC-K523-08DR	4	Sinking or Sourcing	4	Relay	Max 24 Vdc	3.5 mA	Max 30 Vdc or 250 Vac	Max 2 A
KNC-PLC-K523-16DT	8	Sinking or Sourcing	8	Transistor	Max 24 Vdc	3.5 mA	Max 24 Vdc	Max 500 mA
KNC-PLC-K523-08DT	4	Sinking or Sourcing	4	Transistor	Max 24 Vdc	3.5 mA	Max 24 Vdc	Max 500 mA

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Discrete Input Parameters	
Input Type	Sourcing or Sinking
Input Voltage	Rated: 24 Vdc; Max 30 Vdc
Rated Input Current	24 Vdc @ 3.5 mA
Minimum Input Voltage of Logic 1	Normal Input: 11 Vdc @ 2.0 mA High-Speed Input: 18 Vdc @ 2.5 mA
Minimum Input Voltage of Logic 0	5 Vdc @ 0.7 mA
Input Delay: • Off-to-On • On-to-Off	Normal Input: 12 µs; High-Speed Input 8 µs Normal Input: 40 µs; High-Speed Input 12 µs
Isolation Between Input and Internal Circuit • Mode • Voltage	Opto-Isolated 500 Vac / 1 minute

Discrete Output Parameters (Transistor)	
Output Type	Sourcing
Output Voltage	Rated: 24 Vdc Allowable Range: 20.4 - 28.8 Vdc
Output Current/Input	Max 500 mA @24 Vdc
Parallel Connection of Output Channels	Yes
Protection Function: • Power Supply Polarity Protection • Inductive Load Protection • Short-Circuit Protection • Output Reverse Polarity Protection	Yes Yes Yes Yes, Allow Applying Reverse Polarity Signal at the Output End No More than 10 Seconds.
Isolation Between Input and Internal Circuit • Mode • Voltage	Opto-isolated 500 Vac / 1 minute

Discrete Output Parameters (Relay)	
Maximum Load Voltage	30 Vdc or 250 Vac
Maximum Load Current	2 A
Output Delay: • Off-to-On • On-to-Off	Max 10 ms Max 5 ms
Output Isolation • Mode • Between Coil and Contacts • Between Contacts	Relay 2000 Vrms 1000 Vrms
Expected Life of Contacts: • Mechanical Life (no load) • Electrical Life (rated load)	20,000,000 Times (12,000 times / min) 100,000 Times (6 times / min)

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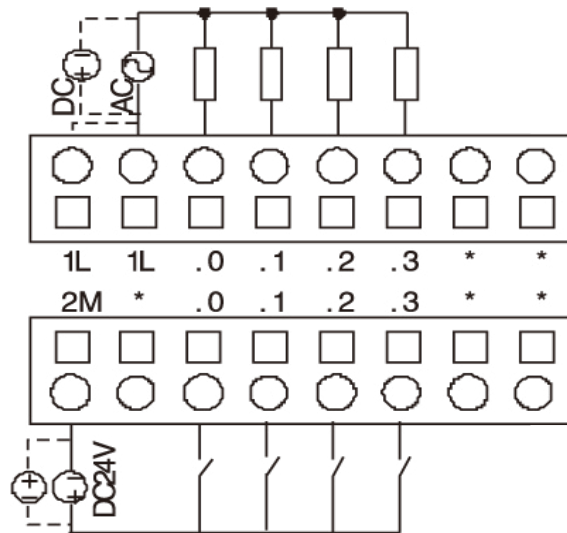
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In each system, the CPU module is arranged in the leftmost end, and expansion modules are connected to the expansion interface on the right.

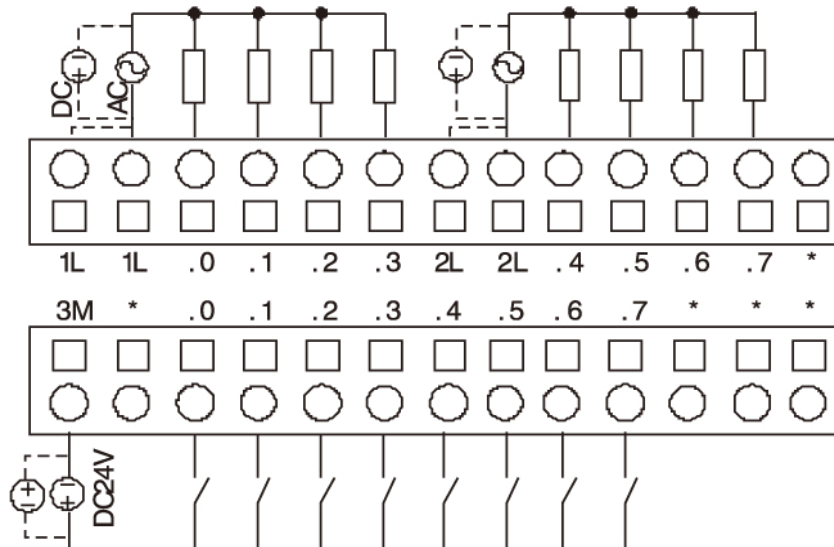
A cable slot is designed on the left side of each expansion module. The expansion cable can be put in the cable slot to ensure seamless interconnection between modules after installing.

KNC-PLC-K523-08DR



Solid line indicates source input; dotted line indicates sink input.

KNC-PLC-K523-16DR



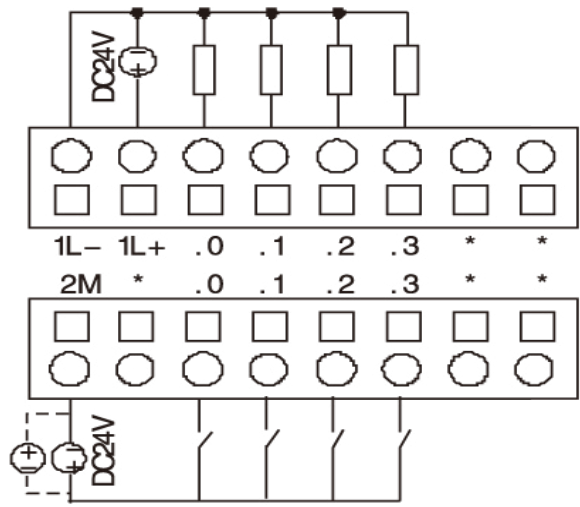
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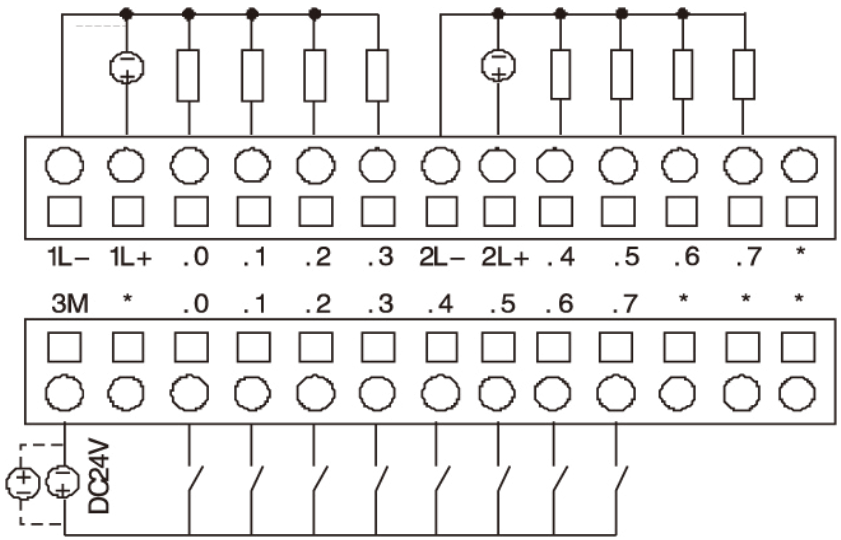
WIRING DIAGRAMS

KNC-PLC-K523-08DT



Solid line indicates source input; dotted line indicates sink input.

KNC-PLC-K523-16DT



Solid line indicates source input; dotted line indicates sink input.

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