

# KBMS SERIES PROGRAMMABLE RELAYS

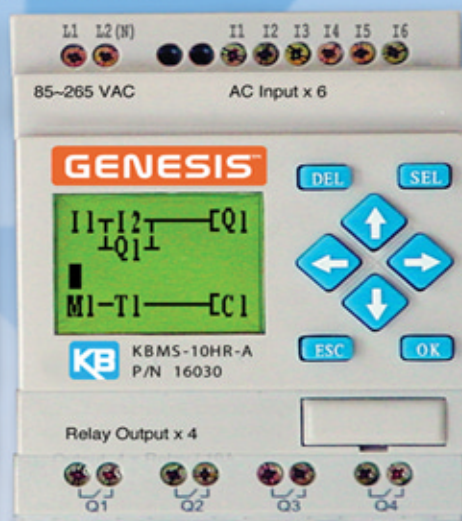
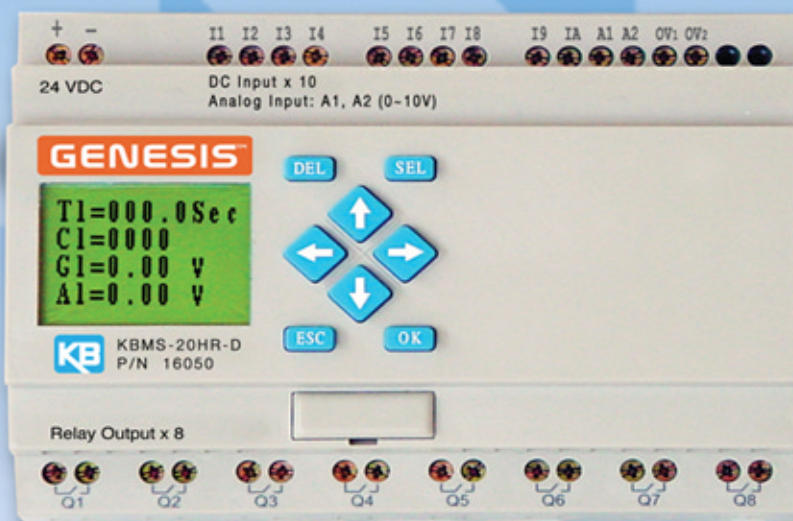
## TYPICAL APPLICATIONS

- Machine Automation • Process Control
- HVAC Systems • Agricultural Equipment
- Instrumentation Logic Interfacing

# GENESIS™

## Automation and Control

- 10, 12, and 20 I/Os with DC and AC Digital and Analog Inputs
- High Current Relay Outputs
- Built-In 48 Character LCD Display with Keypad
- Simplified Ladder Logic Programming
- PR-Link™ Windows® 98/2K\*/NT\* ME/XP Software



## STANDARD FEATURES

- 8 Programming Keys
- Simplified Ladder Logic with Symbols
- High Current Output Relays
- 15 Timers (7 Types)
- 8 Four-Digit Counters (4 Types)
- Differential One-Shot Function
- 15 Internal Memory Relays
- 8 HMI Display Text Messages and Data
- 48 Character LCD Display
- Real Time Simulation for Program Debugging and Testing:
  - Digital Input Activation
  - Display of Output States
  - Dynamic Display of Active Elements
  - Analog Input Voltage Simulation
- DIN Rail and Slide-Out Tab Panel Mounting Systems
- Multi-Language Text Display
- Software Password Protection

## OPTIONAL ACCESSORIES

- PR-Link™ Windows® 98/2K\*/NT\*/ME/XP Software (Part No. 16510)
- Removable EEPROM Cartridge (Part No. 16500)

\*Tested using Windows 2000® service pack 2.0 and Windows NT® service pack 5.0



**KB Electronics, Inc.**

"The Right Control For Your Application"  
Data Sheet D-1000



## FEATURES BY MODEL

Model No.	Total I/O	Inputs			Relay Outputs	Real Time Clock Types	Analog Comparator Types	Part No.
		Digital		Analog*				
		DC	AC	0-10 VDC				
KBMS-10MR-D	10	6	–	–	4	–	–	16000
KBMS-10MR-A	10	–	6	–	4	–	–	16020
KBMS-10HR-A	10	–	6	–	4	2	–	16030
KBMS-12HR-D	12	6	–	2	4	2	7	16035
KBMS-20MR-D	20	12	–	–	8	–	–	16040
KBMS-20HR-D	20	10	–	2	8	2	7	16050
KBMS-20MR-A	20	–	12	–	8	–	–	16060
KBMS-20HR-A	20	–	12	–	8	2	–	16070

\*Note: Analog inputs can be used as digital inputs ( ON: 9.8V, OFF: 4.9V)


## DESCRIPTION

The KBMS Series of Programmable Relays are designed for machine automation and process control applications. Several models are offered which provide a choice of input power (AC or DC), number of input/outputs (10, 12, and 20), and input type (digital DC or AC and 0 - 10 VDC analog). All models contain high current independent output relays. In addition, "H" suffix models offer Real Time Clock (RTC) operation and models KBMS-12HR-D and KBMS- 20HR-D contain two analog inputs.

Simplified Ladder Logic Programming is accomplished with the front panel digital LCD keypad or PR-Link™ Windows® 98/2K/NT/ME/XP PC software. Additional programming flexibility is achieved with the optional EEPROM cartridge which is used to download and upload programs from one KBMS to another.

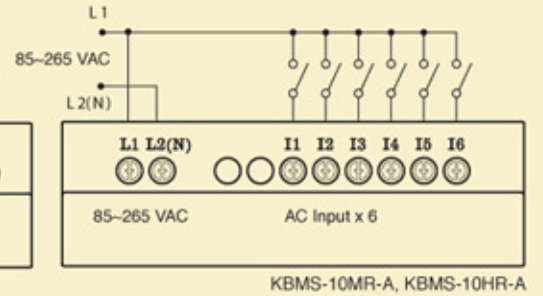
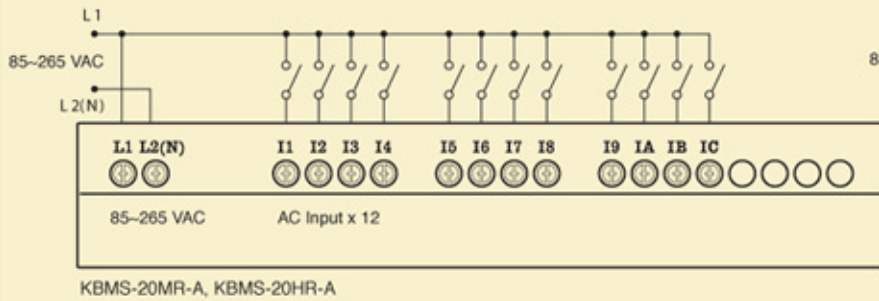
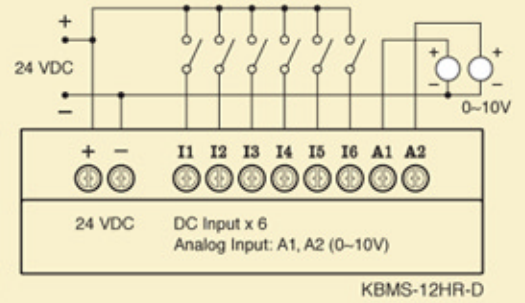
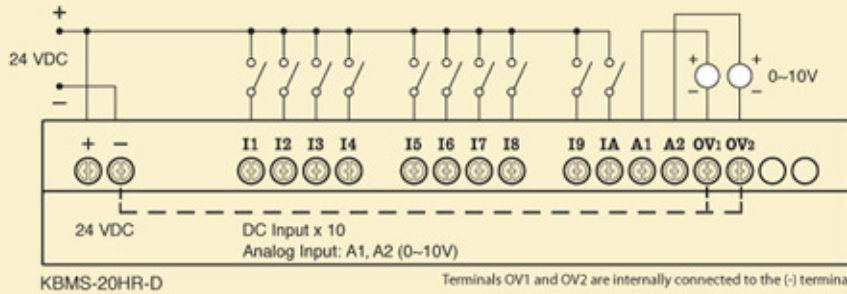
Although simpler in design, and low cost, the compact KBMS Series, with their expanded features, can replace PLCs in many applications. Contains built-in DIN rail and slide-out tab panel mounting systems. Barrier terminal blocks facilitate wiring.

## KBMS SERIES GENERAL PERFORMANCE SPECIFICATIONS

Parameter	Specification
Program Memory (Steps)	320
Input Power Voltage Range - DC Models (Volts DC)	21.6 - 26.4
Input Power Voltage Range - AC Models (Volts AC - 50/60 Hz)	85 - 265
Output Relay Contact Rating (Amps @ 250 Volts AC and 24 Volts DC, Inductive)	8, 3 (B300)
LCD Display (Lines x Characters)	4 x 12
Input Signal Voltage Threshold - DC Models: "On", "Off" (Volts DC)	>15, < 5
Input Signal Voltage Threshold - AC Models: "On", "Off" (Volts AC)	>79, < 40
Input Signal Delay Time - DC Models: "On-to-Off", "Off-to-On" (mS)	3, 5
Input Signal Delay Time - AC Models: "On-to-Off", "Off-to-On" (mS)	50-90*, 50-90*
Enclosure Type	IP20
Maximum Vibration (G)	1.0
Operating Temperature Range (°C)	0 to 55
Storage Temperature Range (°C)	- 40 to 70
Maximum Humidity (Relative, Non-Condensing) (%)	90
Approvals	

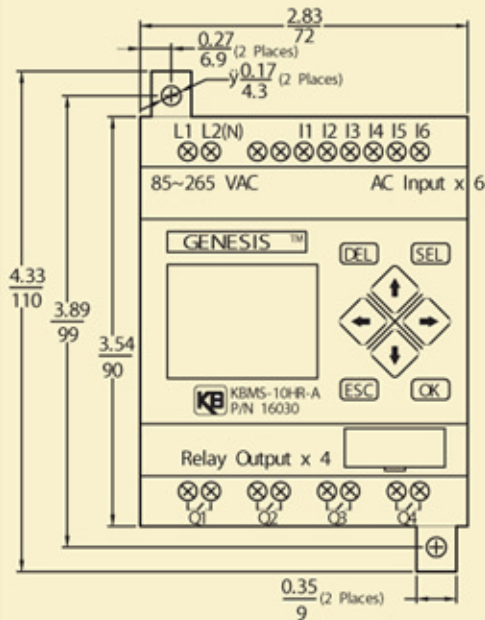
\* Note: Delay time varies with the AC line input voltage (85-265 VAC)

## CONNECTION DIAGRAMS

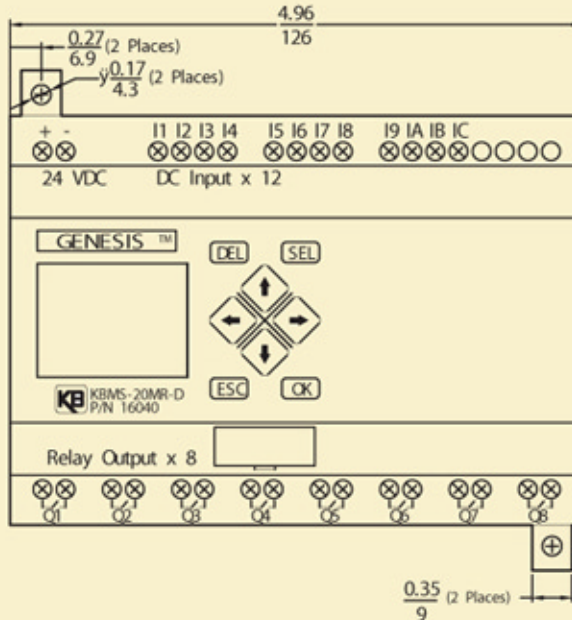


## MECHANICAL SPECIFICATIONS AND CONTROL LAYOUT (Inches/mm)

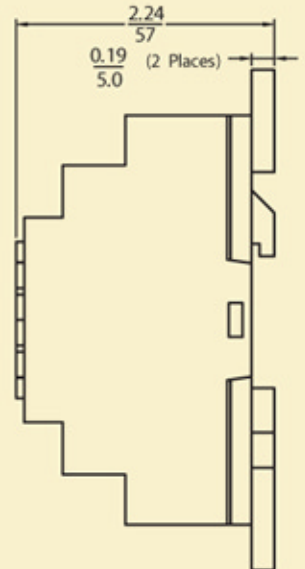
KBMS-10MR-D, 10MR-A, 10HR-A, 12HR-D



KBMS-20MR-D, 20MR-A, 20HR-D, 20HR-A



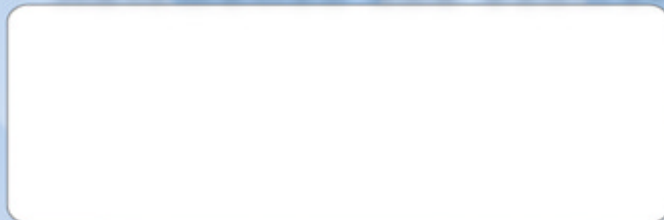
Side View (All Models)



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**KB Electronics, Inc.**

12095 N.W. 39th Street • Coral Springs, FL 33065-2516  
954 346-4900 • Fax: 954 346-3377 • Outside Florida 800 221-6570  
[www.kbelectronics.com](http://www.kbelectronics.com) • Email: [info@kbelectronics.com](mailto:info@kbelectronics.com)