

## KM-Ringer and Ringer-2000



### DC Feed and Ring Power Supplies for Voice/Fax Modules



KM-Ringer



Ringer-2000

#### FEATURES

- DC power supplies for KILOMUX-2000/2100 voice/fax modules
- Provide DC feed (battery) and ringing voltages for connected telephones
- Compatible with all voice/fax modules with FXS interface
- Support E&M interfaces requiring -48 VDC
- Ringer-2000 standalone unit supports up to 60 voice channels
- KM-Ringer plug-in module supports up to 32 voice channels

#### DESCRIPTION

- Ringers are DC power supplies for voice/fax modules of the modular KILOMUX-2000/2100 systems which require loop-current feed (battery) and ring DC voltages.
- A Ringer is needed when a voice module is equipped with FXS or E&M-type interface for direct connection to a telephone set. Power is then required to provide the following functions:

- DC feed (battery) voltage (-24 or -48 VDC) for the connected telephones.
- High DC ring voltage (+72 VDC by AC-powered models or +60 VDC by DC-powered models) for conversion by the voice module to a 20 Hz AC ringing signal. Needed only for FXS-type interfaces.

#### Ringer-2000 Standalone Unit

- The Ringer-2000 stand-alone unit, provides the DC power to support up to 60 voice channels. The Ringer-2000 supports all voltages required by the voice modules: -24 VDC or -48 VDC for feed and +72/+60 VDC for ring signal.
- Ringer-2000 is a 19" wide, 1U-high unit that can be installed in racks. The unit has ten 3-pin DC-output connectors on the rear panel. The voltages are passed from the Ringer-2000 DC-output connectors to the DC-input connector of each voice module via connector cables (see *Ordering* for cable information).
- The following output ordering options are available for the Ringer-2000:
  - Ringer-2000/24/72 provides both -24 VDC feed and +72 or +60 VDC ring voltages for the FXS modules.
  - Ringer-2000/48/72 provides both -48 VDC feed and +72 or +60 VDC ring voltages for the FXS modules.
  - Ringer-2000/48 provides only -48 VDC for the DC feed (no ring voltage). This option is

suitable only for E&M modules, which do not require ring signal voltages.

- The recommended Ringer-2000 option for the FXS modules is the first option, with -24 VDC feed voltage. This is sufficient for applications where the system is placed within a short distance of the telephone sets. Operation of the FXS modules at -24 VDC prevents over-dissipation of power inside the modules, and is usually sufficient for a loop span of up to 1 km.

#### KM-Ringer Plug-in Module

- The KM-Ringer module is a 3U-high plug-in module for the KM-2000/2100 chassis, occupying three I/O slots. The module is completely encased, enabling it to also operate externally, placed outside the chassis. KM-Ringer features a single DC-output connector on the panel and supports up to 32 voice channels.
- Each KM-Ringer module is supplied with a splitter cable (CBL-RINGER2) for supporting two voice modules. If more than two modules need to be connected, additional cables can be ordered with up to six connectors (see *Ordering*). Cables can be connected to one another, enabling a single KM-Ringer to be connected to multiple Kilomux voice modules, supporting up to 32 channels.

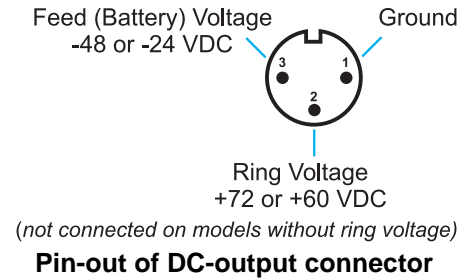
# KM-Ringer and Ringer-2000

## DC Feed and Ring Power Supplies for Voice/Fax Modules

### SPECIFICATIONS

- DC-Output Connectors**  
*(See diagram at right for connector pin-out)*  
 Ringer-2000: ten 3-pin female  
 KM-Ringer: one 3-pin female
- Indicators**  
 RING VOLTAGE - lights when the ring voltage is within the normal range  
 BATTERY VOLTAGE - lights when the feed voltage is within the normal range
- Physical**  
**KM-Ringer**  
 3U-high module occupies three I/O slots of KM-2000/2100 chassis

**Ringer-2000**  
 Height: 4.4 cm / 1.7 in (1U)  
 Width: 48 cm / 19.0 in  
 Depth: 31 cm / 12.2 in  
 Weight: 2.1 kg / 4.6 lb



### APPLICATION

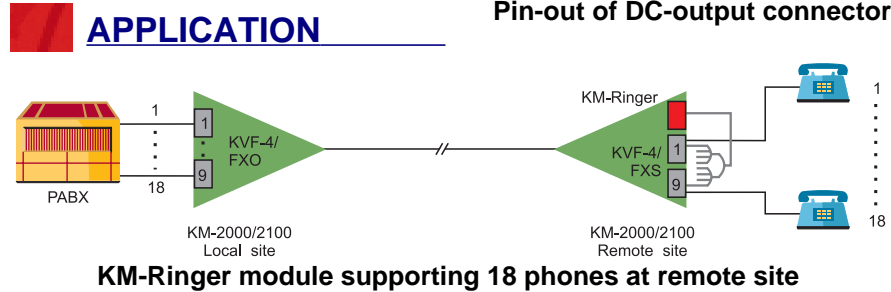


Table 1. Power Specifications

Model (according to operating voltage option)	Operating (Input) Voltage	Feed (Battery) Voltage Output	Ring Voltage Output
<b>KM-Ringer:</b> 115 or 230 VAC	115 or 230 VAC ±10%, 50/60 Hz	-48 VDC ±5%, 0.6A max	+72 VDC ±5%, 0.5A max
-24 VDC	-24 VDC (-18 to -36 VDC)	-24 VDC ±5%, 0.6A max	+60 VDC ±5%, 0.5A max
-48 VDC	-48 VDC (-36 to -72 VDC)	-48 VDC ±5%, 0.6A max	+60 VDC ±5%, 0.5A max
<b>Ringer-2000:</b> 115 or 230 VAC with 24/72 output ordering option	115 or 230 VAC ±10%, 50/60 Hz	-24 VDC ±5%, 1.5A max	+72 VDC ±5%, 0.85A max
115 or 230 VAC with 48/72 output ordering option	115 or 230 VAC ±10%, 50/60 Hz	-48 VDC ±5%, 1.5A max	+72 VDC ±5%, 0.85A max
115 or 230 VAC with 48 output ordering option (no ring voltage)	115 or 230 VAC ±10%, 50/60 Hz	-48 VDC ±5%, 3.0A max	none
-24 VDC	-24 VDC ±5%, 1.5A max	-24 VDC ±5%, 1.5A max	+60 VDC ±5%, 0.85A max
-48 VDC	-48 VDC ±5%, 1.5A max	-48 VDC ±5%, 1.5A max	+60 VDC ±5%, 0.85A max

### ORDERING

**RINGER-2000/+/#/\***

Standalone power supply unit, supports up to 60 voice channels

**KM-RINGER/\***

Power supply module for Kilomux chassis, supports up to 32 voice channels

- + Specify DC feed voltage output:  
**24** for -24 VDC  
**48** for -48 VDC
- # Specify **72** for ring voltage output  
*(+72 VDC is provided by AC-powered models; +60 VDC is provided by DC-powered models.)*  
 Default is without ring voltage

- \* Specify operating (input) voltage:  
**115** for 115 VAC  
**230** for 230 VAC  
**48** for -48 VDC  
**24** for -24 VDC

**CBL-RINGER1**

Cable for connecting a Ringer DC-output connector to a single module

**CBL-RINGER2**

Splitter cable for connecting a Ringer DC-output connector to up to two modules

**CBL-RINGER4**

Splitter cable for connecting a Ringer DC-output connector to up to four modules

**CBL-RINGER6**

Splitter cable for connecting a Ringer DC-output connector to up to six modules



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