

MIC2000S Multi Information Controller



- 10/100/1000 BaseT Ethernet
- 3x CAN interfaces
- 2x USB Interfaces
- 2x RS232
- 4x Video Inputs
- Audio output
- 40 configurable I/O's
- 2x Display connectors
- Programmable via Guitu
- Designed for operation at both 12 VDC and 24 VDC
- Real Time Clock

The MIC2000S is embedded Linux based high end controller with loads of features. It combines the traditional I/O controller, Display controller and Data logger with rich set of interfaces such as USB, Ethernet, RS232 and CAN interfaces. It also enables showing multiple camera pictures on attached remote display(s). As the unit has two display controllers both displays can show different user interface. The built-in audio output can be used e.g. for voice messages.

Optionally it can be equipped with WLAN and with an internal SD memory card. It is commonly used as NMT master for machine automation systems. It can store and transfer the application to nodes in the system making maintenance tasks easier.

Technical Information

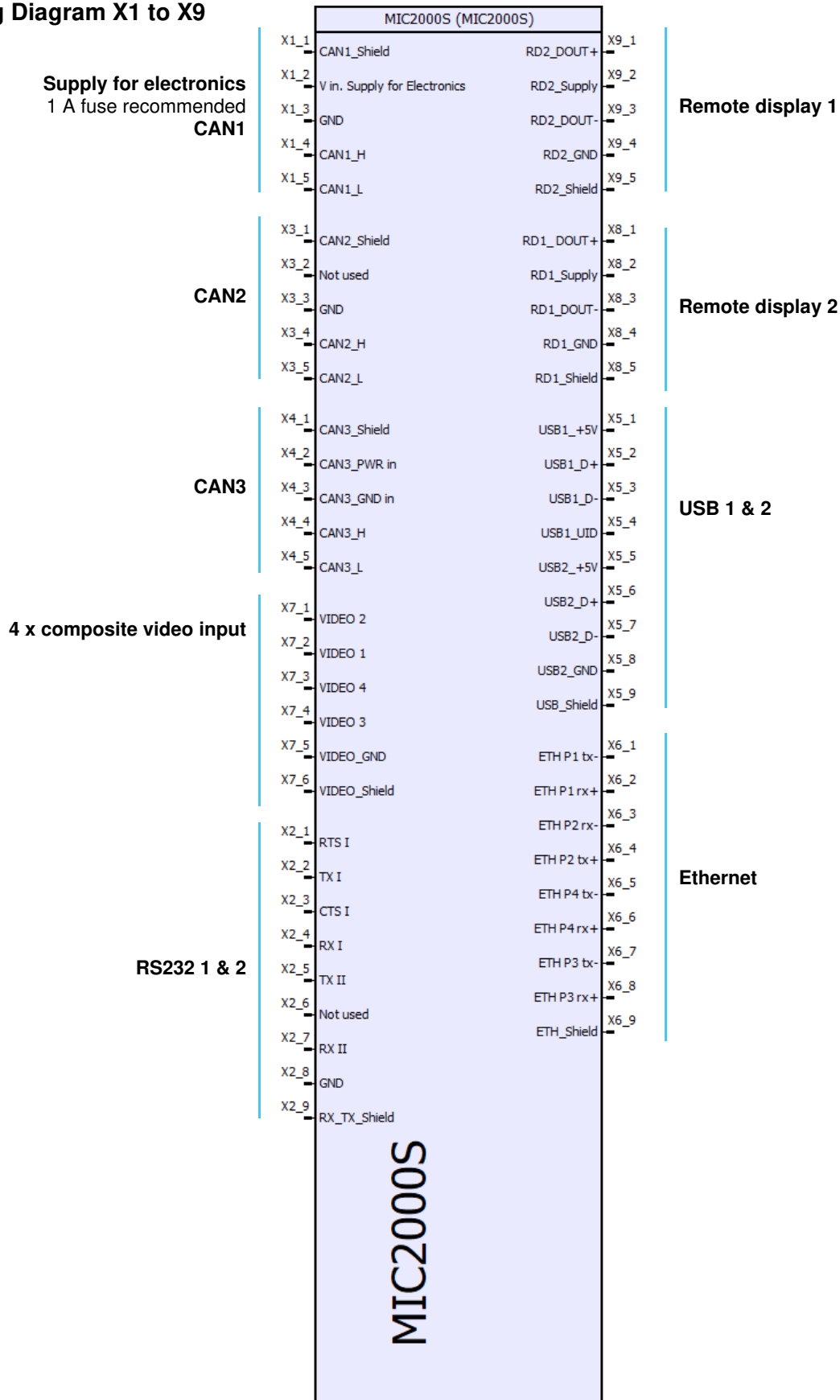
- 9-32 VDC Operating voltage range
(Protected against reverse polarity)
- -40...+85 °C operating temperature range
- ARM Cortex A9 Dual Core 800 MHz main CPU
 - 2 GB DDR3 RAM
 - 2 GB flash memory
- ARM Cortex M4 168 MHz co-processor
 - 1 MB Flash
- 2x Graphics controllers
- 2x CAN Interface 2.0 B, ISO 11898
- 1x CAN Interface 2.0 B Isolated, ISO 11898
- 2x Serial port interface RS232
- Battery secured real time clock (RTC)
- Audio output, 1 W, 8 Ω
- Internal SD memory card slot (up to SDHC 32 GB supported)
- Internal PCI Express / mSATA for optional WLAN
- IP67 aluminium housing
- Weight 0.9 kg
- Main dimensions 145 mm x 195 mm x 35 mm

I/O Interface

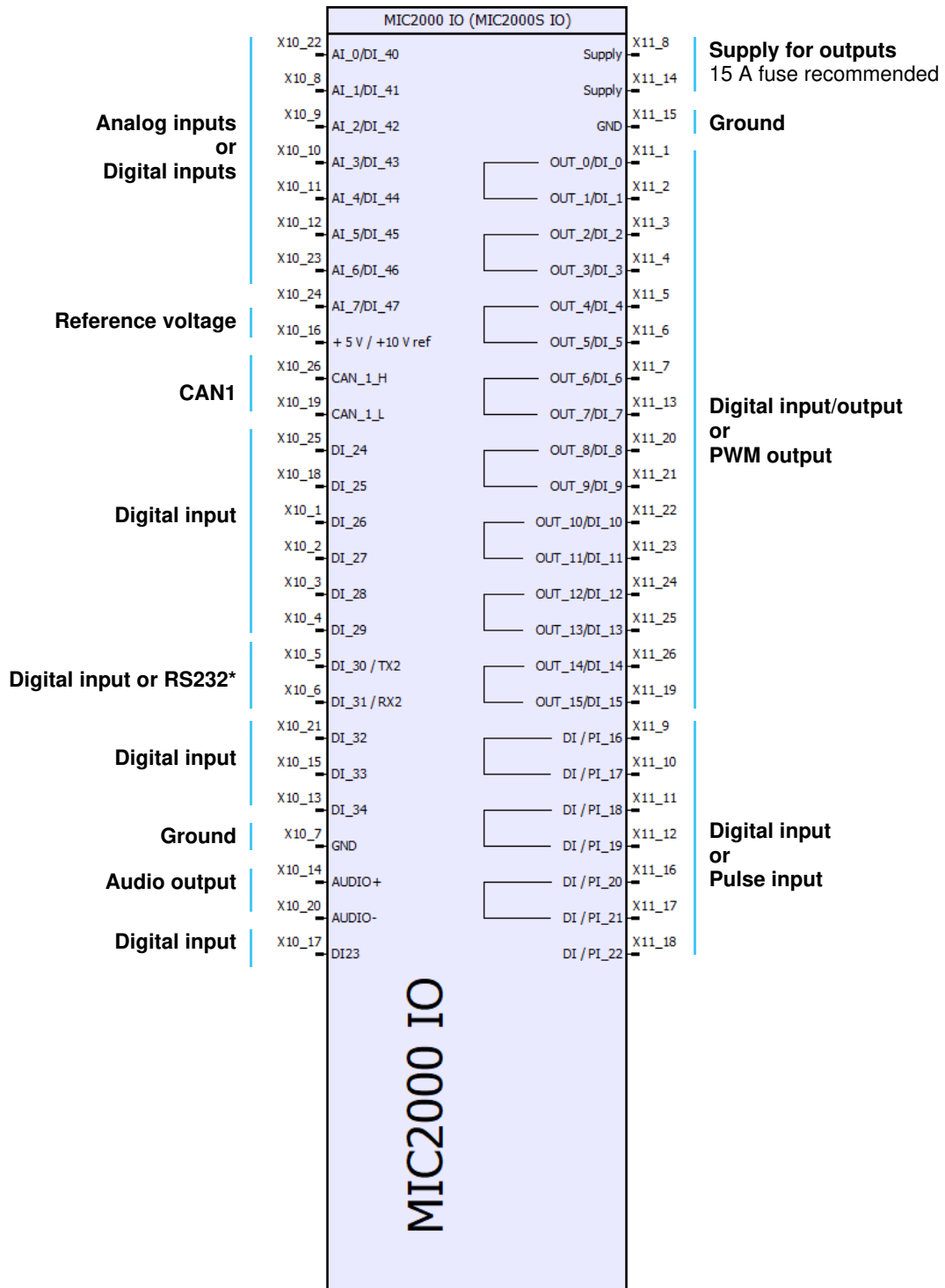
- Total of 40 configurable IO-lines
- Separate supply for outputs and electronics
- The I/O interface is protected against short to GND and to supply voltage
- Configurable reference voltage: 5 V / 10 V, max 150 mA

Amount	Configurability	Details
7	Digital input Pulse input	Low < 2 V, High > 6,5 V, max 100 Hz Low < 2 V, High > 6,5 V, max 8 kHz
8	Digital input Analog input	Low < 2,3 V, High > 6,0 V, max 100 Hz. 12-bit AD converter. 0 – 15,6 V 104 kΩ. 0 – 22 mA, 150 Ω.
9	Digital input	Low < 2 V, High > 6,5 V, max 100 Hz
16	Digital input Digital output Current controlled PWM output	Low < 2 V, High > 6,5 V, max 100 Hz High side switch, max 2 A (current feedback) High side switch, max 2 A (current feedback)

Wiring Diagram X1 to X9

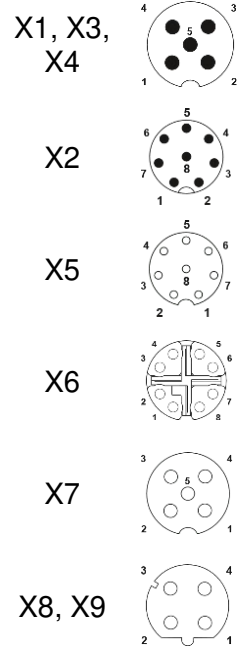
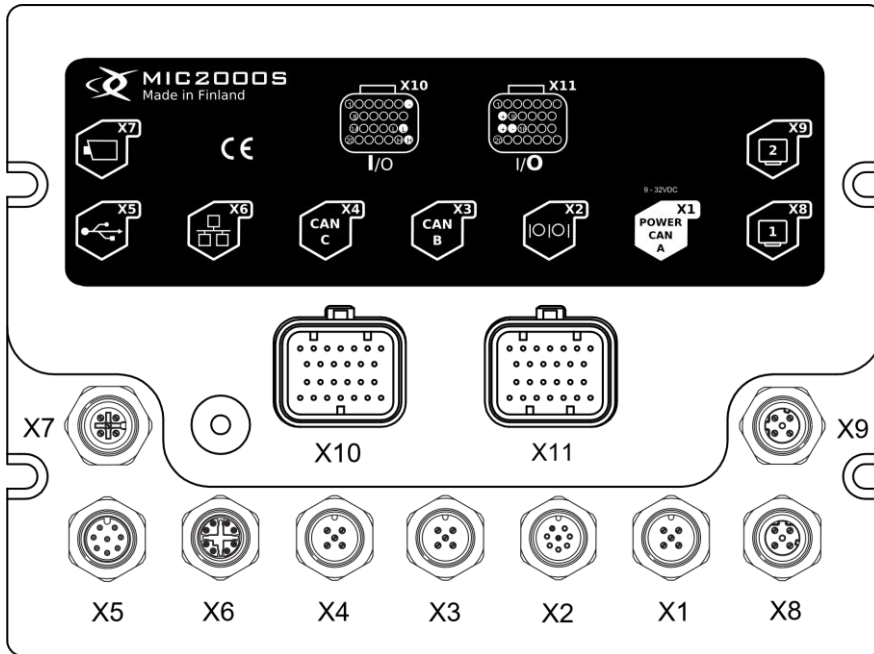


Wiring Diagram X10 and X11



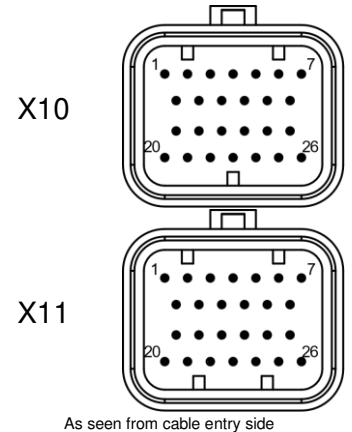
* Use DI_30 only with reference voltage (Max 15 V)

Connectors



M12 Connectors

	M12 Connector needed:
X1: CAN 1 + Power Supply	5 pin, Female A-coded
X2: Serial Interface 1 & 2	8 pin, Female A-coded
X3: CAN 2	5 pin, Female A-coded
X4: CAN 3	5 pin, Female A-coded
X5: USB 1	8 pin, Male A-coded
X6: Ethernet	8 pin, Male X-data **)
X7: Composite Video Inputs 1 – 4	5 pin, Male A-coded
X8: Remote Display (Touch capable)	4 pin, Male D-coded
X9: Remote Display (Touch capable)	4 pin, Male D-coded
Protective cap for Male M12 *)	Erni 374342
Protective cap for Female M12 *)	Erni 374343



As seen from cable entry side

*) Protective caps must be used on unused connectors to reach waterproofness

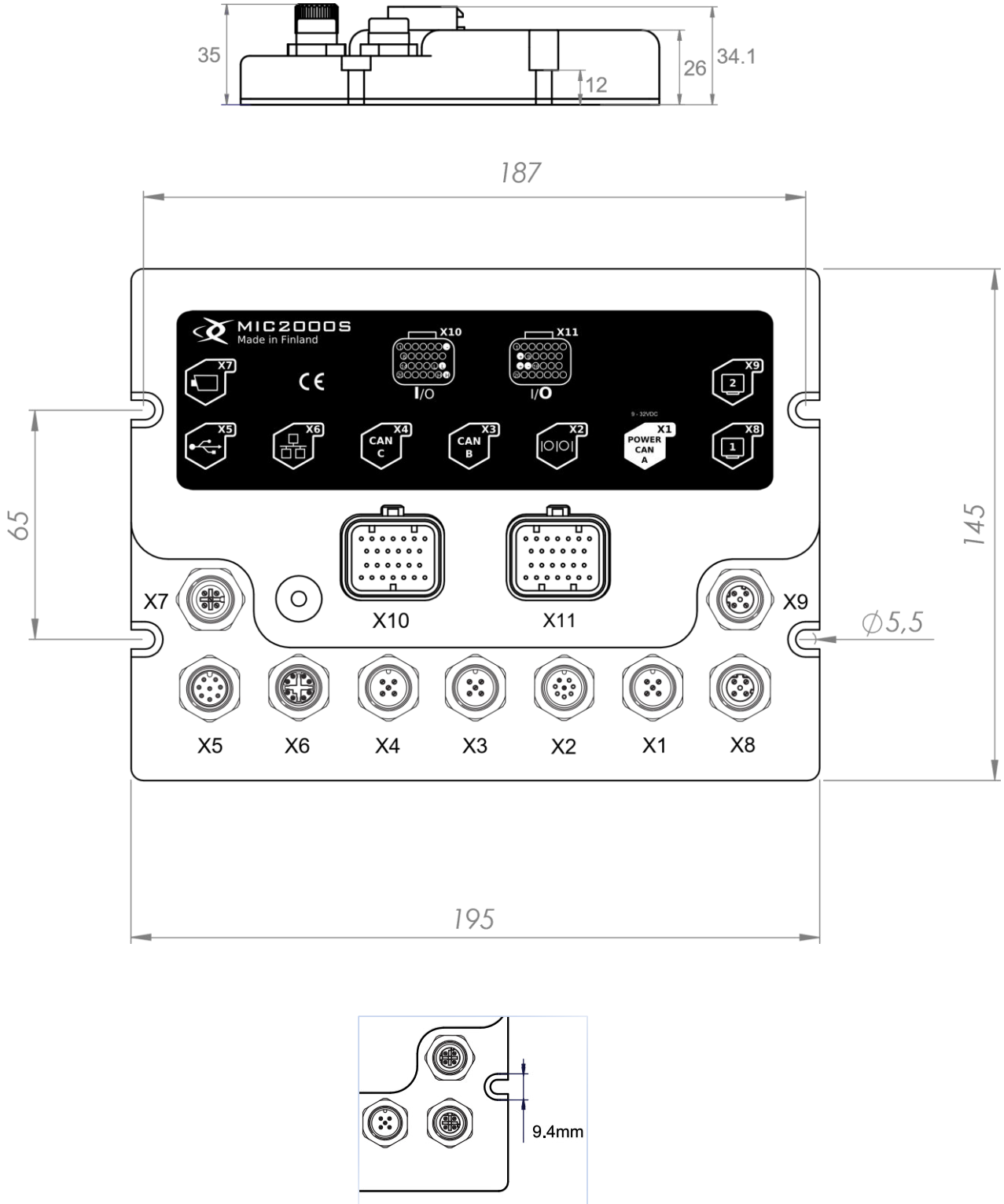
**) We recommend using Phoenix Contact network cable: NBC-MSX / 1,0-94F/R4AC SCO - 1407471

Superseal connectors

	Superseal connector needed:
X10: Super Seal Connector Plug Housing	Ø1.6 - 2.2 mm - AMP 3-1437290-7
X11: Super Seal Connector Plug Housing	Ø1.6 - 2.2 mm - AMP 3-1437290-8
Receptacle Contact (0.75 – 1.25mm ²)	AMP 3-1447221-3
Filler Plug *)	AMP 4-1437284-3 Deutsch 0413-204-2005

*) Filler plugs must be used on empty cavities to reach waterproofness

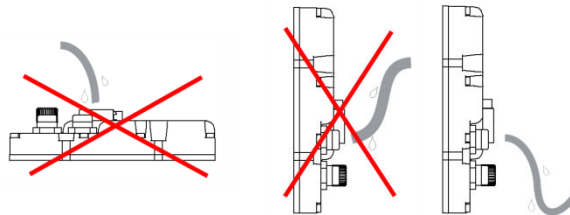
Dimensions



Mounting

MIC2000S is fixed to mounting panel or flat surface with four M5 screws.

The preferred mounting position is connectors pointing downwards. If the unit is mounted connectors pointing to the side, then it is vital to leave some loose cable with a downward cue to prevent the ingress of moisture through connector.



Note! Extra care should be paid on grounding of MIC2000S. The lower right mounting hole is prepared for this purpose. It is recommended to use ring tongue and joint compound to minimize transient resistance.