

Application Note 1027

MXZ-C Wiring

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Introduction

This Application Note provides an overview related to the wiring of MXZ-C generation equipment for both branch box and port type units. It also includes electrical and wiring requirements for the MXZ unit itself.

MXZ Electrical Requirements and Wiring

The electrical requirements for the MXZ-C generation equipment can be seen below in Table 1.

Table 1 - MXZ-C generation electrical and wiring requirements

Model	Power Supply Voltage, Hz, Ph	Minimum Wire Thickness [AWG (mm ²)]		Breaker for Wiring [A]	MCA [A]	MOCP [A]
		Main Cable	Ground			
2C20NAHZ2-U1	208/230, 60, 1	AWG8	AWG8	40	29.5	40
3C24NAHZ2-U1	208/230, 60, 1	AWG8	AWG8	40	30.5	40
3C30NAHZ2-U1	208/230, 60, 1	AWG8	AWG8	40	30.5	40
4C36NAHZ-U1	208/230, 60, 1	AWG6	AWG6	50	42	52
5C42NAHZ-U1	208/230, 60, 1	AWG6	AWG6	50	42	52
8C48NAHZ-U1	208/230, 60, 1	AWG6	AWG6	50	42	50
2C20NA2-U1	208/230, 60, 1	AWG12	AWG12	20	17.2	20
3C24NA2-U1	208/230, 60, 1	AWG12	AWG12	25	22.1	25
3C30NA2-U1	208/230, 60, 1	AWG12	AWG12	25	22.1	25
4C36NA2-U1	208/230, 60, 1	AWG12	AWG12	25	22.1	25
5C42NA2-U1	208/230, 60, 1	AWG8	AWG8	40	32.5	40
8C48NA-U1	208/230, 60, 1	AWG8	AWG8	40	37	50
8C60NA-U1	208/230, 60, 1	AWG6	AWG6	50	46	52

Port Type Wiring

When wiring a port type MXZ (MXZ-2C20NA2-U1, MXZ-3C24NA2-U1, MXZ-3C30NA2-U1, MXZ-4C36NA2-U1, MXZ-5C42NA2-U1, MXZ-2C20NAHZ2-U1, MXZ-3C24NAHZ2-U1, MXZ-3C30NAHZ2-U1) all power and communication from outdoor to indoor units will pass through S1-S2-S3. The wiring required will be AWG14/3 and ground. An example of this wiring can be seen below in Figure 1.

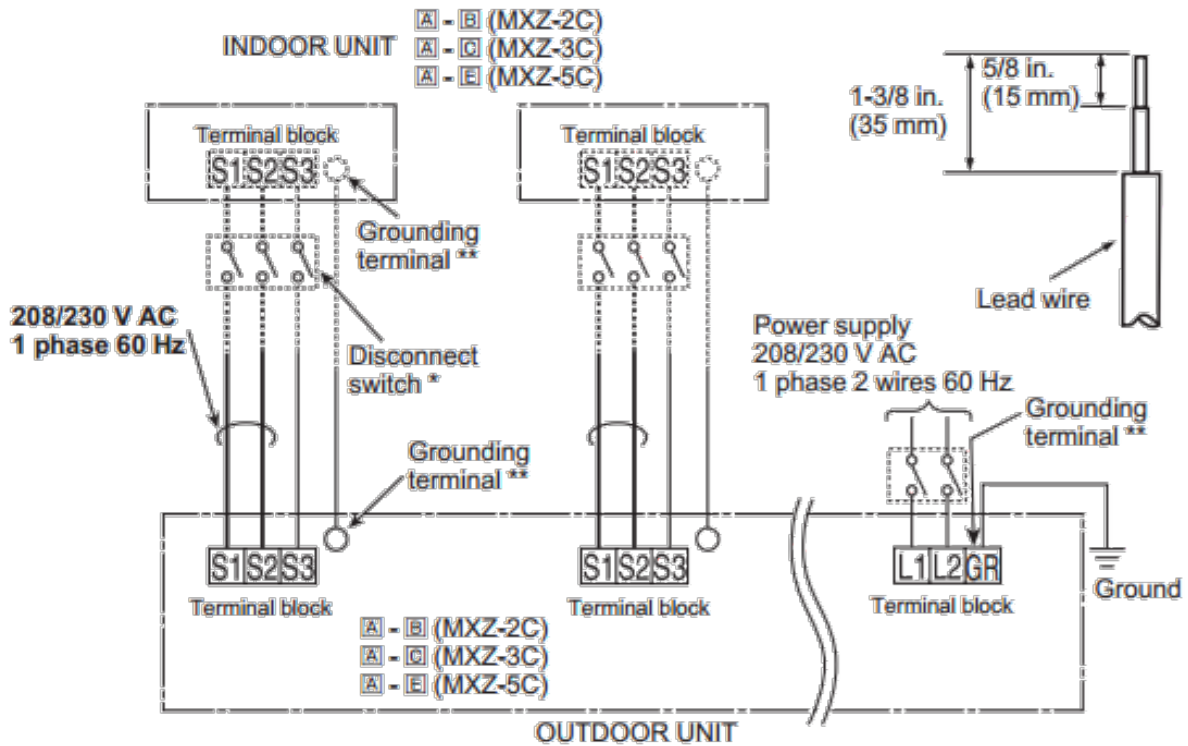


Figure 1 - MXZ port type wiring

Branch Box Type Wiring

When wiring a branch box type MXZ (MXZ-8C48NA-U1, MXZ-8C60NA-U1, MXZ-4C36NAHZ-U1, MXZ-5C42NAHZ-U1, MXZ-8C48NAHZ-U1) there are two options for communication and power to the branch boxes.

Option 1. Branch box powered from the MXZ

Option 2. Branch box powered independently

Option 1 - Branch box powered from the MXZ

When using this option, the branch box will be wired for both communication and power from the MXZ outdoor unit. This will require the installation of two wires, one for branch box power and the other for M-NET communication. These wires will be sized based on the values show in Table 2.

Table 2 - Option 1 wiring specifications

Branch Box Power Line	M-NET cable Shielding wire CVVS or CPVES	S1-S2-S3 Signal Line / Earth Line
AWG14 (2.1 mm ²)	AWG16 (1.25 mm ²) Less than 656 ft	AWG16 (1.25 mm ²) Less than 82 ft

The communication between the branch box and indoor units will pass through S1-S2-S3 and will be sized as specified in Table 2.

An example of this wiring type can be seen in Figure 2 below.

■ **Power supply from Outdoor unit**

* Refer to be installation manual of the outdoor unit

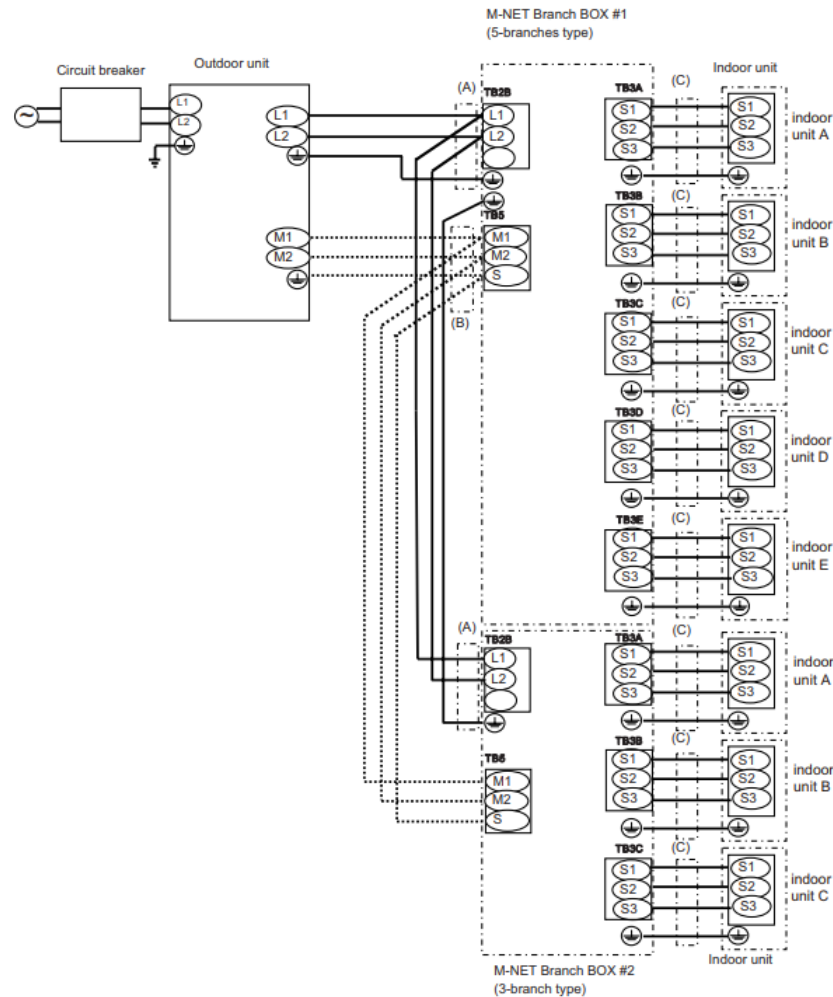


Figure 2 - Option 1 wiring diagram

Of specific note, the power and communication wires can be seen daisy chained from MXZ to branch box to branch box. Based on the application the installation can be configured this way or two lines can be run from the MXZ, one to each branch box. In addition, the power and communication between the branch box and indoor units is clearly shown utilizing S1-S2-S3.

Option 2 - Branch box powered independently

When utilizing this option, the branch box will be wired for communication from the MXZ and will be powered from a separate source. This will require only one wire be run from the MXZ to the branch box. That M-NET wire will be sized based on the second column of Table 2. The power line for the branch box will require a 15Amp, double pole 208/230VAC breaker. This power line should be AWG14/2 with ground. Communication and power for the indoor units will pass through S1-S2-S3 and should be sized based on column 3 of Table 2.

An example of this wiring can be seen below in Figure 3.

■ Supply power separately to branch box and outdoor unit

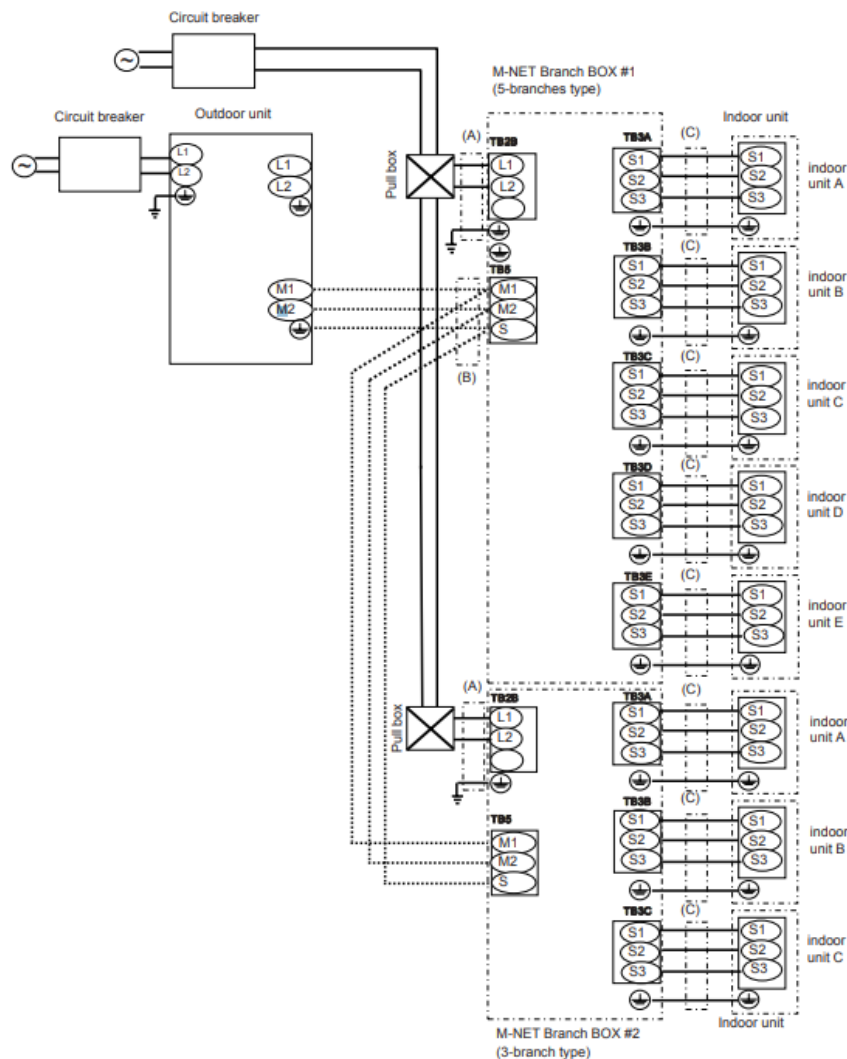


Figure 3 - Option 2 wiring diagram

Startup Notes

When powering up the system, make sure to power the indoor branch box circuit(s) first and the outdoor power circuit second. If powered in a different order, communication errors will result.