



MiniNet Radio Data Network

Digital I/O

Base Station MN3508SE & ME
Out Station MN3600SE & ME

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Features

- ⌚ Up to 4 Base Stations in a system
- ⌚ Up to 8 Outstations per Base Station
- ⌚ Available at 433MHz or 868MHz
- ⌚ 2 Digital Inputs and 1 Digital Output per Outstation
- ⌚ Individual addresses for each Outstation

Brief Description

The MiniNet system has been designed to provide a simple low cost remote control system for Digital I/O. There are two versions available.

The first operates with a single Base Station (MN3508SE) and up to 8 Outstations (MN3600SE)

The other comprises of up to 4 Base Stations (MN3508ME), each transmitting in its own timeslot, with up to 8 Outstations (MN3600ME) per Base Station. The Outstations are each set to a unique address and will only communicate with their respective Base Station.

The Outstations each have 2 Digital Inputs and 1 Digital Output (relay contacts). The Base Station correspondingly has 16 Outputs and 8 Inputs.



Operation and Set Up

Single Base Station System

Setting up the Base Station

Since there is only one base station in this system, there is no requirement to set a base station address.

Use DIP Switch SW1 position 1 to set the number of outstations being used. DIP 1 'ON' is for up to 8 out stations. DIP 1 'OFF' is for up to 4 out stations.

Dip Switch SW1

Number of Outstations	DIP 1	DIP 2	DIP 3	DIP 4
Up to 8 Outstations	On	Off	Off	Off UP
to 4 Outstations	Off	Off	Off	Off

Note: DIP 2, 3 and 4 are not used and should be left in the OFF position.

Setting up the Out Station

Using DIP Switch SW1 position 4, the system can be set to use 4 outstations or 8 outstations. Note: the base station must also be set accordingly. The system operates using time slots for each outstation. If you are using 4 or less outstations, set SW1 DIP4 to 'OFF'. The system will then only allocate 4 timeslots and will therefore operate faster.

DIP Switch SW1

Number of Outstations	DIP4	DIP5	DIP6	DIP7	DIP8
Up to 8 Outstations	On	Off	Off	Off	Off Up
to 4 Outstations	Off	Off	Off	Off	Off

Note: DIP5, 6, 7 and 8 are not used and should be left 'Off'.

Now set the address of the Outstation, between 1 and 8, using SW1 positions 1 to 3 (Note: each Outstation must have a unique address)

Address	DIP 1	DIP 2	DIP 3
1	Off	Off	Off
2	On	Off	Off
3	Off	On	Off
4	On	On	Off
5	Off	Off	On
6	On	Off	On
7	Off	On	On
8	On	On	On

If the Outstation is set to address 1, then switching Input 'A' will trigger Output '1A' on the Base Station. Switching Input 'B' will trigger Output '1B' on the Base Station. Input '1' on the Base Station will switch the relay Output on Outstation address 1. Input '2' and Outputs '2A' and '2B' on the Base Station correspond to Outstation address 2 etc.

Multiple Base Station System

Setting up the Base Station

In this system, there can be up to 4 Base Stations working in close proximity, i.e. within radio coverage. Since they all operate on the same frequency, individual time slots are used to communicate with each Outstation. On each Outstation, a Base Station address must be set, so that the outstation will only communicate with the corresponding base station.

Note: The system will allocate 32 timeslots (4 Base x 8 Out Station), one for each possible Outstation. This means that there may be a short variable delay between switching an input and the activation of the corresponding output. This delay will depend on when in the cycle the input is switched, but it could be up to a maximum of about 10 seconds.

Each Base Station must be set to a different base station address using DIP Switch SW1.

DIP Switch SW1

Base Station Address	DIP 1	DIP 2	DIP 3	DIP 4
Base 1	Off	Off	Off	Off
Base 2	On	Off	Off	Off
Base 3	Off	On	Off	Off
Base 4	On	On	Off	Off

Note: DIP 3 and 4 are not used and should be left in the OFF position.

Setting up the Out Station

Firstly, set the Base Station address to correspond with the address of the Base Station being used, using SW1 position 7 and 8 as follows:-

Dip Switch SW1

Base Station Address	DIP 7	DIP 8
Base 1	Off	Off
Base 2	On	Off
Base 3	Off	On
Base 4	On	On

Now set the address of the Outstation, between 1 and 8, using SW1 positions 1 to 3 (Note: each Outstation working with a particular Base Station must have a unique address)

Address	DIP 1	DIP 2	DIP 3
1	Off	Off	Off
2	On	Off	Off
3	Off	On	Off
4	On	On	Off
5	Off	Off	On
6	On	Off	On
7	Off	On	On
8	On	On	On

NOTE: DIP 4 must be turned ON permanently.

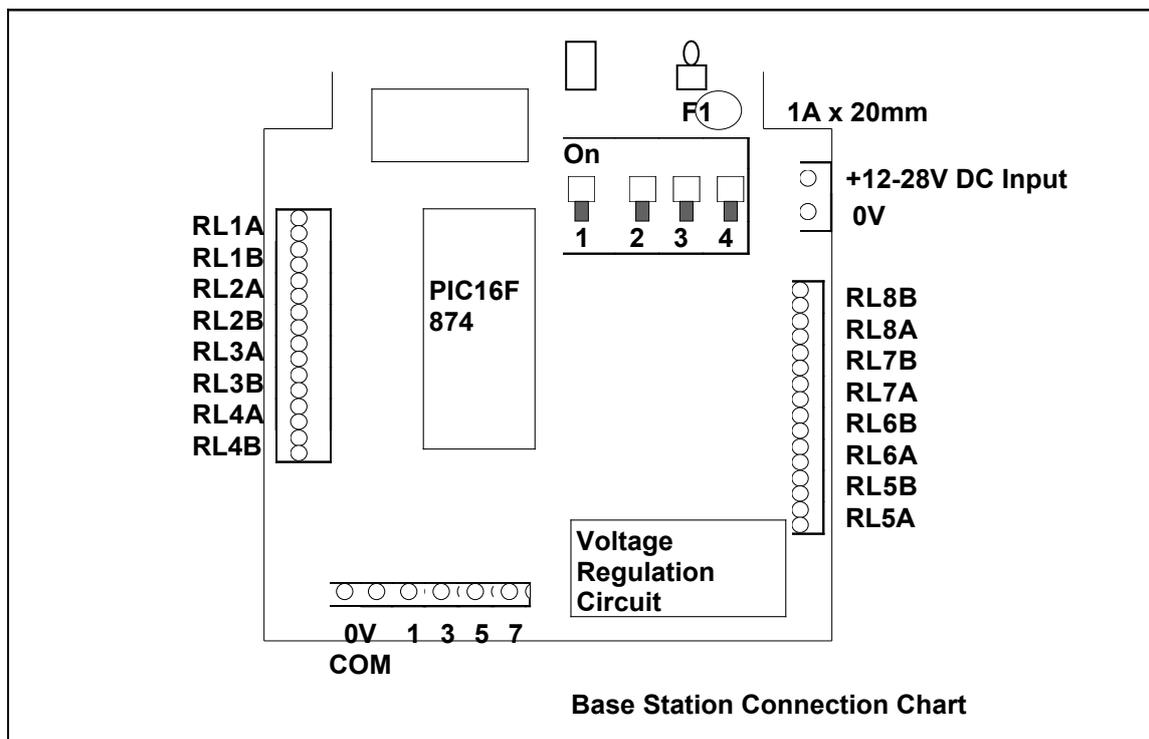
Note: DIP 5 and 6 are not used and should be left in the OFF position.

If the Outstation is set to address 1, then switching Input 'A' will trigger Output '1A' on the Base Station. Switching Input 'B' will trigger Output '1B' on the Base Station.

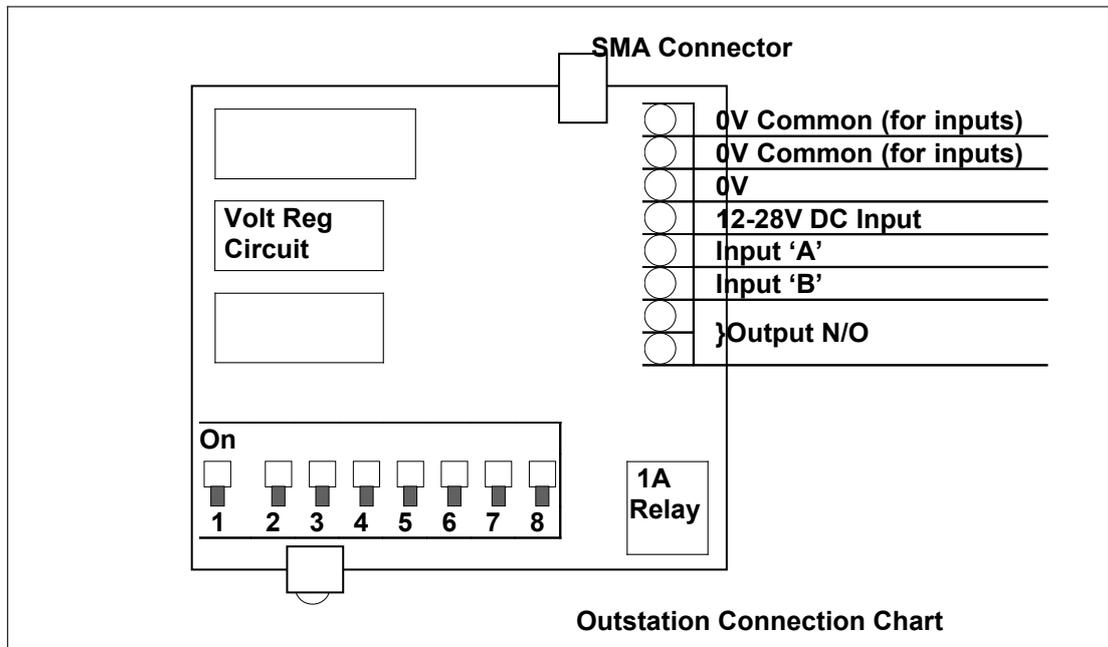
Input '1' on the Base Station will switch the relay Output on Outstation address 1.

Input '2' and Outputs '2A' and '2B' on the Base Station correspond to Outstation address 2 etc.

Connection Details and DIP Switches



Base Station Connection Chart



TECHNICAL SPECIFICATION

RF Module	To EN300 220 – 3
RF Output	10mW
Antenna Connection	SMA
Radio Frequency	433.32MHz or 869.85MHz
Supply Voltage	12-28V DC
Operating Temperature	-10 to +50 degrees C
<i>Base Station</i>	
Dimensions	180h x 130w x 80dp (mm)
Inputs	8 Inputs
Outputs	16 N/O relay contacts, rated @ 1Amp
Current Consumption	Standby = 30mA Relay Active = 700mA
<i>Out Station</i>	
Dimensions	100h x 64w x 40dp (mm)
Inputs	2 Inputs
Outputs	1 N/O relay contact, rated @ 1Amp
Current Consumption	Standby = 20mA Relay Active = 110mA

VersaNet 2 Application

In addition to operating as a stand alone short range telemetry system, the MiniNet can be used in conjunction with the RDT VersaNet system to provide an extension to a VersaNet Node. The MiniNet Base Station is connected to a VersaNet Node using one of the standard digital expansion cards. The MiniNet can then be used to offer up to 8 outstations in a local area around the main VersaNet node. For more information, see the VersaNet 2 documentation.

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