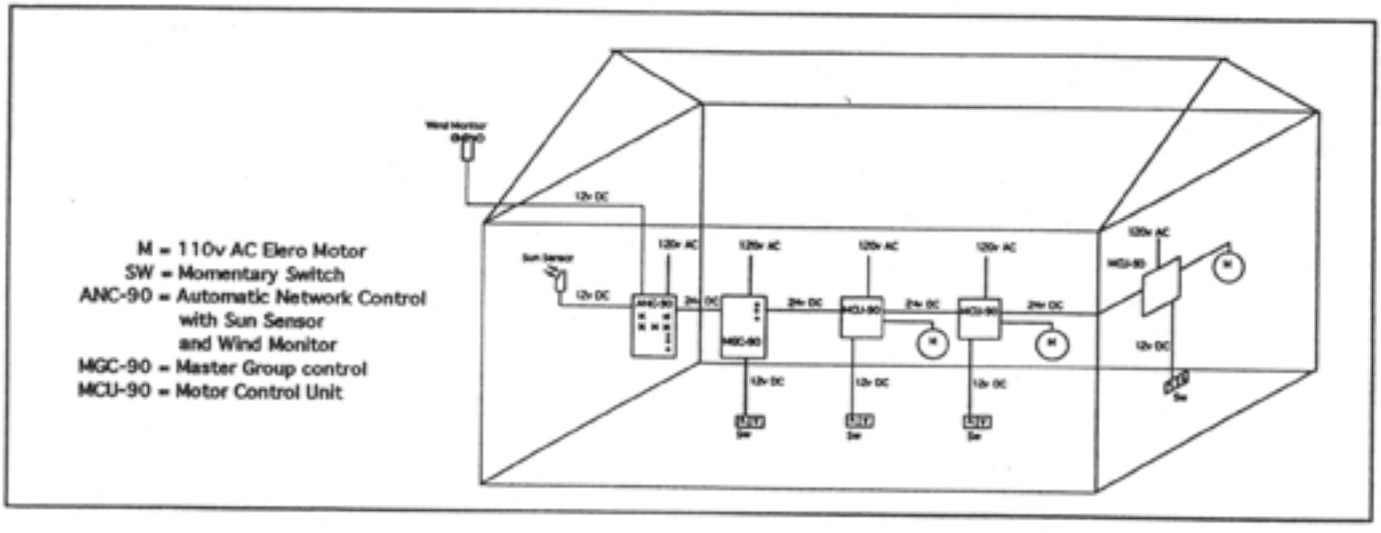
ELERO USA, INC.

INNOVATORS OF TUBULAR & LIFT-TILT MOTORS/CONTROLS

"ELERO-MATIC" LOW VOLTAGE CONTROLS

THE ELERO-MATIC LOW VOLTAGE CONTROL SYSTEM



The Elero-Matic low voltage DC control system has been designed as a building block system. A 24 V DC low voltage line communication system is used for the control messages. The individual motor systems obtain 110V AC operating power from the readily available house current system at any position through a single J-box hook up to the Elero-Matic Motor Control Unit (MCU-90). The Elero-Matic intelligent control units are composed of three priority levels.

Level 1: Motor Control Unit (MCU-90): Accepts and processes low voltage signals in order to operate a single shade.

Level 2: Sub Group Control (SGC-90) : Receives low voltage signals from MGC-90 and directs signals to pre-selected groups of shades.

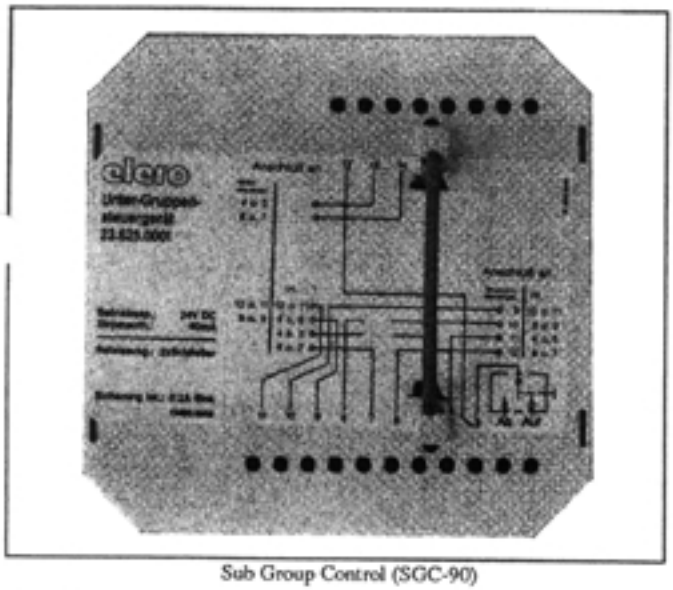
Level 3: Main Group Control (MGC-90) : Controls up to 25 downstream sub groups or individual units by means of a low voltage signal.

The entire communication channel is handled by a low voltage 24V DC circuit that links each motor controller to the next and onto the Sub Group and subsequently to the Main Group Controller (MCU-90). Each motor (shade) station can also be individually operated by a switch. Sub group controllers (SGC-90) operate all downstream motor units centrally from the sub group control switch or from a remotely located sub group operating switch. All Sub Groups and their downstream operating units can be united into a central main group processor. This intelligent system processor permits opening or closing of all shades simultaneously from one point. The Main Group Controller (MGC-90) can be operated by a built-in momentary switch, remotely wired switches, or by automated controllers such as timers, sun sensors or wind monitors.

The combination of the Elero-Matic low voltage network control system with the reliable Elero tubular and lift/tilt motors is recognized as the most maintenace free and dependable self standing automation and control network on the market today. It is extensively used worldwide for controlling interior and exterior window coverings, shading and shutter systems.

PRINCIPAL FEATURES

- All controllers are modular plug-in type processor.
- The low voltage control circuit is isolated from the 110V motor power supply circuit.
- 24V DC low voltage communication line .
- Motor power supply can be taken directly from the existing 110V building circuit to the individual controllers.
- Motor Control Units (MCU-90) and Sub Group Controllers (SGC-90) are compact 4" x 4" x 2" construction.
- Main Group Controllers (MGC-90) are housed in a compact 6" x 3" x 4 1/2" box.



Sub Group Control (SGC-90)

TECHNICAL DATA

Main Group Control (MGC-90)	
Operating Power	24V DC
Amperage	160mA
Frequency	60 Hz
Power Supply	110-120V AC
Current	1.2A
Enclosure	IP 40
Dimension (in mm)	150 x 75 x 112
Motor Control Unit (MCU-90)*	
Operating Power	24V DC
Amperage	40mA
Relays	(2) SPDT
Power Supply	110-120V AC
Max Consumption	690 VA
Max Current	4A
Dimension (in mm)	93 x 93 x 42

*For 1 AC motor

COMPONENTS OF MAIN GROUP CONTROLS

The Main Group Control (MGC-90) is the central switching station for all systems connected to the motor and sub group controls.

The main components are:

1. **Power Base Element**
   This solid base screws directly into mounting either in horizontal or vertical plane. It is equipped with 16 special designed screw terminals and an equal number of spring contacts connecting to the PC board.
2. **P.C. Board/ Controller**
   This board slides into the base plate where it is anchored by the spring terminals. The board is equipped with the operating logic, transformer and control switches.
3. **Main Housing**
   The main housing simultaneously acts as a cover panel and support base for the PC board. It is provided with three circular openings to accept the operating buttons and one illuminated control diode.

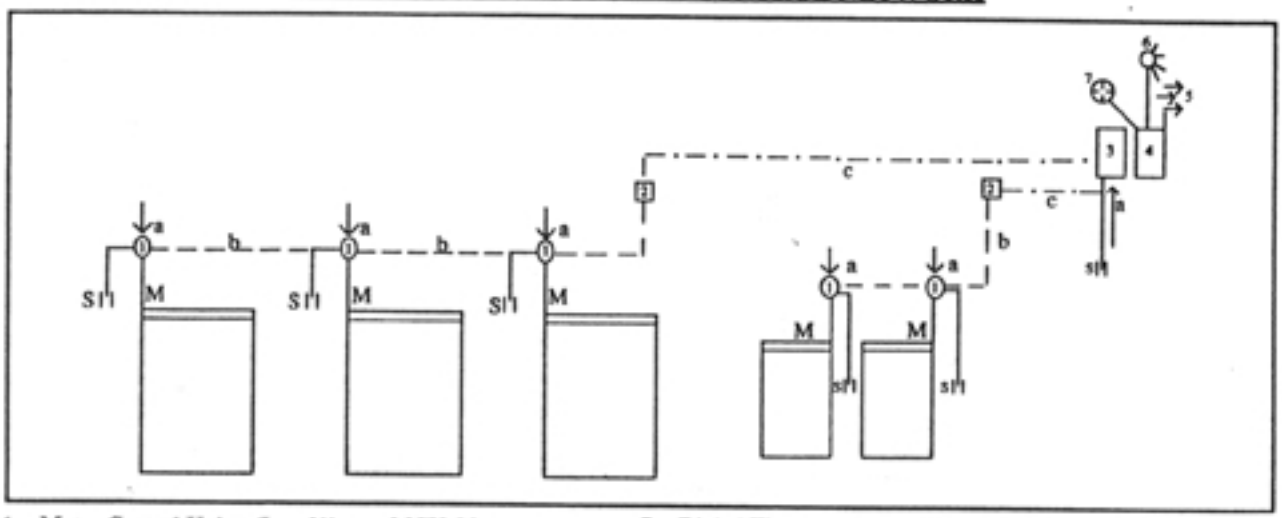
COMPONENTS OF MOTOR CONTROL AND SUB GROUP CONTROL

The Elero-Matic Motor Control Unit (MCU-90) and Sub Group Control (SGC-90) are based on sophisticated plug-in microprocessor technology.

The main components are:

1. **Power Base Module**
   The power base module contains compression type terminal blocks for interconnecting wiring. The line voltage (110V AC) and control voltage (24V DC) have separate terminal strips to allow for maximum isolation and safety. The incoming 110V power and the motor connections are made at the eight terminal strip while the 24V control power and signals from control devices such as light sensors, timers, wind monitors, switches and other MCU-90's and SGC-90's are made at the eleven terminal strip.
2. **Microprocessor Module**
   The processor module plugs into the power base through pin connectors in the terminal strips. It is easily removed for access to the 4 Amp power fuse located on the processor module. When the processor module is in place, all wiring is covered providing protection from accidental electrical contact. An electrical probe can be used to test voltages at the terminal blocks without removing the processor module.
3. **Housing**
   The MCU-90 or SGC-90 will fit into a 4" x 4" x 2" electrical box which can be recess mount or surface mount as required by the installation.

ELERO-MATIC LOW VOLTAGE CONTROL NETWORK

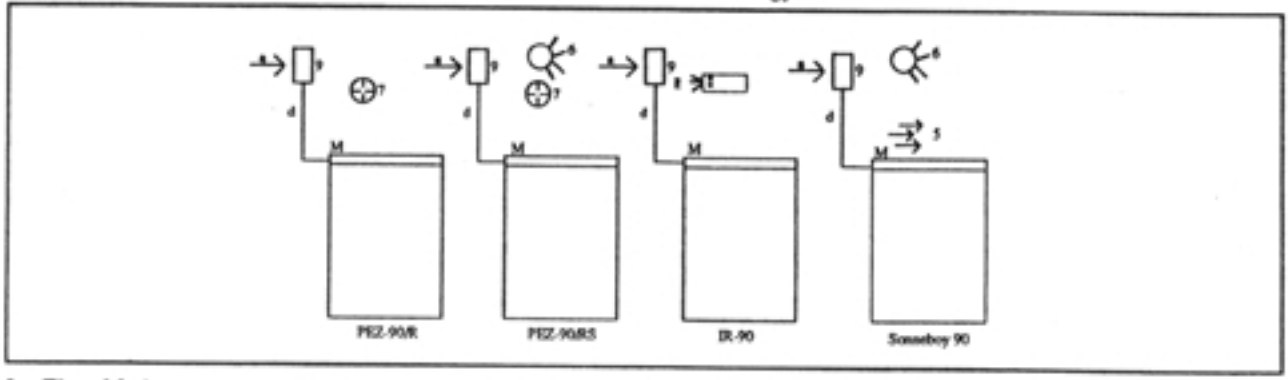


1 = Motor Control Unit (Level1) MCU-90
2 = Sub Group Control (Level 2) SGC-90
3 = Main Group Control (Level 3) MGC-90
4 = Automated Network Controller ANC-90
5 = Wind Monitor
6 = Sun Sensor
7 = Digital Timer
a = 110 V AC building current supply [off j-box]
b = Elero-Matic 24V DC Network line
c = Elero-Matic 24V DC Main Communication Line
S = Momentary Switch
M = 110 V AC Elero Motor

The Main Group Control (MGC-90) can accomodate up to 25 downstream units. These can be either SGC-90's or MCU-90's. Each SGC-90 or MCU-90 count as (1) downstream control unit.

ELERO-MATIC SELF-STANDING AUTOMATIC CONTROLS

In addition to the Elero Low Voltage Network System, Elero offers a full range of self-standing automated controls for use with individual window systems. They are based on the plug-in micro-processor concept and have been designed and built to the latest standards of control technology.



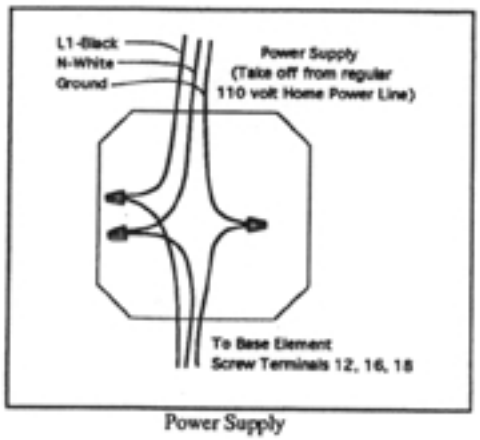
9 = Elero-Matic Self-Standing Automatic Controller
- PEZ- 90/R Timer
- PEZ-90/RS Timer/ Light Sensor Combination
- IR-90 Infrared Control to operate 1 thru 15 units individually or all at once
- Sonneboy 90 Light Sensor/ Wind Monitor

a = 110V AC building current supply [off J-box]
d = Motor supply and control cable
5 = Sonneboy 90 Wind Monitor
6 = PEZ-90/RS Sun/Light Sensor
7 = PEZ-90/R Timer

For More Information
Call 1-800-752-8677 for details

elero
ELERO USA, INC.
10860 ALDER CIRCLE
DALLAS, TEXAS 75238
PHONE (214) 343-1676

INSTALLATION OF ELERO-MATIC LOW VOLTAGE SYSTEM

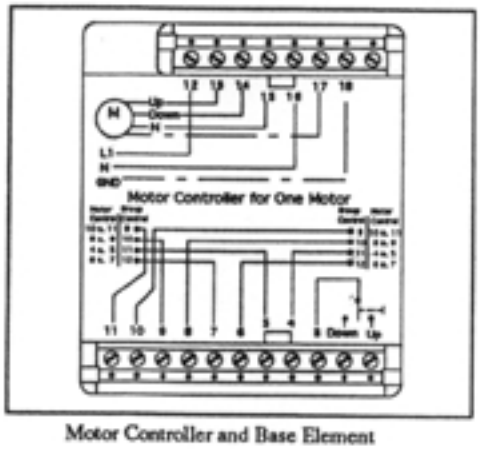


Power Supply

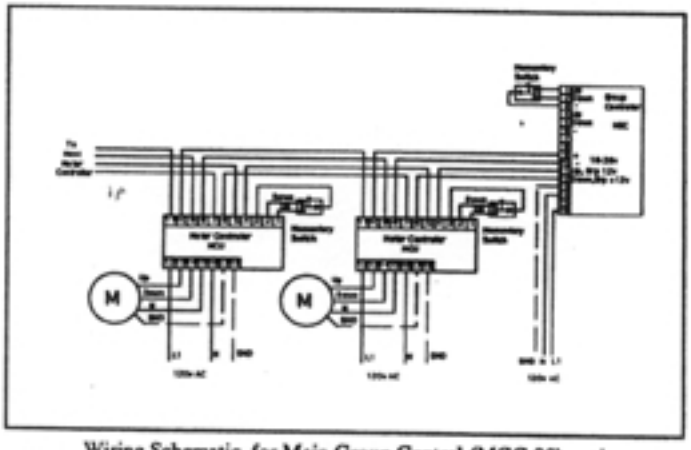
MCU-90 = Motor Control Unit
SGC-90 = Sub Group Control
MGC-90 = Main Group Control

Note: Turn power off prior to installation.

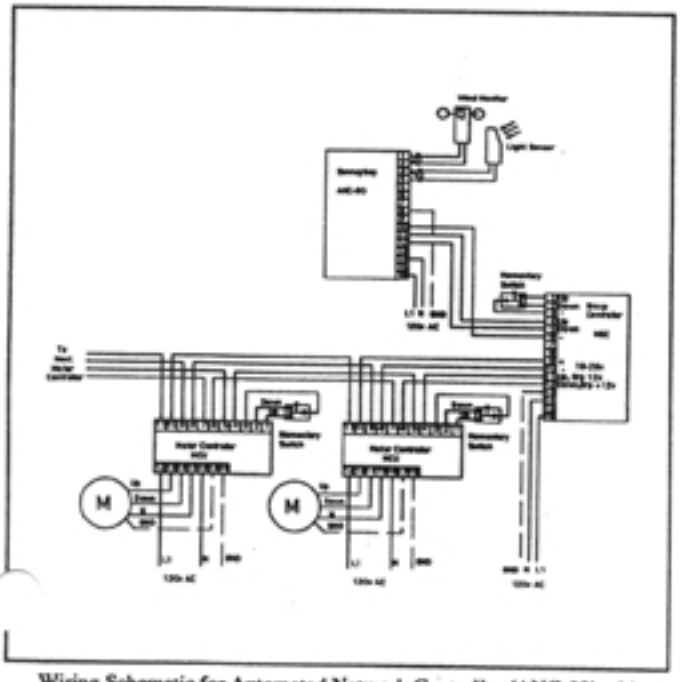
1. Install controller housing with installation screws to wall, ceiling or mounting board.
2. Mount base element into housing.
3. See wiring schematic for connection of base terminals to J-box 110V power supply.
4. Place plug-in processor board into position [never plug-in while power is on].
5. Close off housing with cover plate.



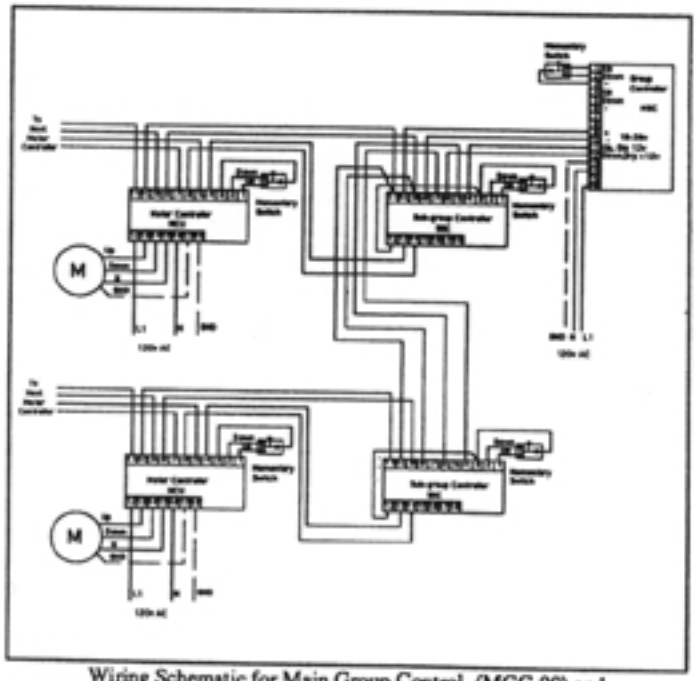
Motor Controller and Base Element



Wiring Schematic for Main Group Control (MGC-90) and Motor Control Unit (MCU-90) Installation



Wiring Schematic for Automated Network Controller (ANC-90) with Elero Low Voltage Communication System Installation



Wiring Schematic for Main Group Control (MGC-90) and Sub Group Control (SGC-90) Installation