



## Using CIMREX Terminals with PMAC

The CIMREX Company provides a wide range of operator terminals that can be used with any PMAC through a serial connection. The options include different terminal sizes, color or monochrome displays, and touch-screen or regular keys. The terminals are designed for industrial environments, and the fronts can withstand oil and water.

CIMREX provides a very easy to use Windows® based program to allow the setup of the terminals. The program is the same for any model of terminal, which means that a project made for a given model could be transported to another terminal model with minor modifications. Examples for the programming of each model are included in the form of demo programs making the initial programming of the terminal a very easy process.

Communications with PMAC is very simple. The CIMREX-71 terminal, for example, is a touch-screen type with color display. An action on the screen is simply defined as an area (rectangle, circle or invisible) that can have associated to it any PMAC variable (P, Q, I or M). When the area on the screen is touched the variable can change state between 0 and 1 in different ways. The different methods are all selected on the same dialog box and are: Momentary, Toggle, ON or OFF. A PLC or Motion Program in PMAC can then take appropriate action based on the value of the selected variable.

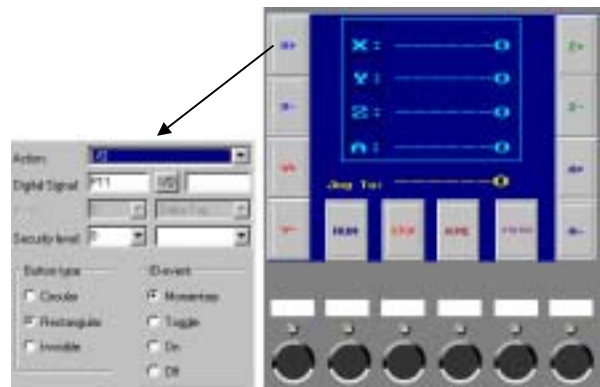
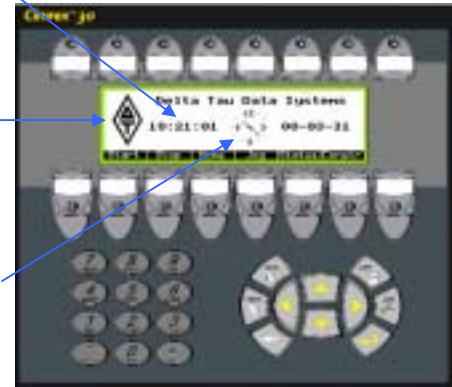
The CIMREX-30 terminal, on the other hand, has regular function keys instead of a touch-screen. Besides this difference, however, the programming of the keys is quite similar to the touch-screen case. Actions on the CIMREX-30 terminal are simply defined in a dialog box for a particular “screen” or block. The function keys defined in the dialog box for a particular “screen” can have associated to it any PMAC variable (P, Q, I or M). Then, the PLC or a Motion Program PMAC code will monitor a change in the selected variable and take action accordingly. Based on the similarities on the communication schemes of both terminals the PMAC code could be the same even if the terminal model is eventually changed.

In both terminals the monitoring and display of any PMAC variable is very simple. An analog or digital indicator can be added and have associated any PMAC variable, including the predefined position, velocity and following error variables. A rich library of graphic indicators (VU-meter, speedometer, bargraph) is included for a very simple graphical interface for a given application.

Most terminals include other functions like the alarm, recipe and trend functions. The alarm function is used to call the operator’s attention on events in the process that need immediate caution. The recipes function allows all dynamic data in a block, that is signals and their values, to be saved in a file in the run-time mode. The operator can then download the file to the host computer. The trend



- Built-in real time clock with calendar is included.
- A graphic object can simply be cut and pasted into the terminal display.
- A library of built-in objects, like this analog clock, is provided.



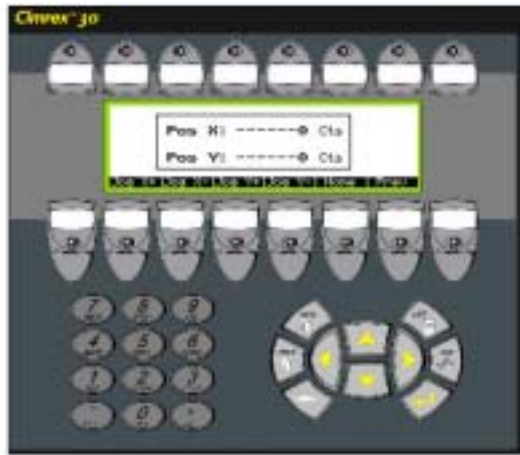


function allows the analog values from the PMAC to be collected and presented in a trend object while running. The presentation is in the form of a curve. The values collected are stored in the terminal's project memory.

The CIMREX terminals provide a convenient and simple method for creating a user interface for any machine controlled with PMAC. The wide range of models, from the inexpensive monochrome type to the impressive model with color touch-screen, makes these terminals suitable to virtually any application. The added advantage is the use of the same programming method, both in PMAC and in the terminals, for all the different models, making the migration between models a very easy process. The CIMREX terminals require an external 24 Volts power supply and connects to PMAC by a specially made serial cable. An independent serial port connected to the host computer allows the programming of the terminals with the provided cable and programming software.

```

OPEN PLC 1 CLEAR
IF (P11=1)
    COMMAND "#1j+"
    WHILE (P11=1)
        ENDWHILE
    COMMAND "#1j/"
ENDIF
CLOSE
    
```



Device	Max Address	Comment
POS	POS32	Motor position
VEL	VEL32	Motor velocity
FERR	FERR32	Motor following error
I	IR191	
P	PR191	
M	MR191	
Q	OR191	
X:B	X:0FFFFFFF	Read only
K:	X:4294967295	Read only
Y:S	Y:0FFFFFFF	Read only
Y:	Y:4294967295	Read only

All devices can be used both as analog and digital objects.

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