

12. PROGRAMMABLE LOGIC CONTROLLER PLC

MAX Logic H series

PURPOSE

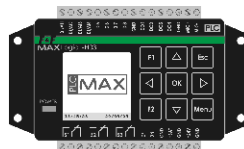
H Series drivers are designed to solve large-scale task management of technological processes and data exchange. Are used in home automation and industrial low and medium level of technological advancement. Made in a compact case designed for mounting directly on a flat surface (wall, table) as well as switchboards (35mm rail).



H01



H02



H03



H04

H01 Basic version

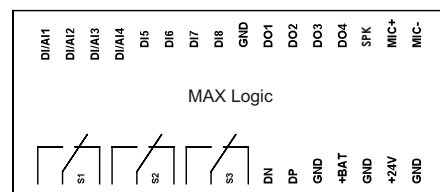
H02 With GSM communicator

H03 with front panel (LCD screen + keyboard)

H04 With GSM communicator, front panel (LCD screen + keyboard), GUI

supply	9+24V DC
digital inputs	4
analog/digital inputs	4
digital outputs	4
relay outputs N/C	3x[<5A]
ports	SD, microUSB, SIM, RS485
communication port	MODBUS RTU
working temperature	-10+50°C
power consumption	1W
connection	screw terminals 1,5mm ²
dimensions	110x79x40mm
fixing	to the base or on the rail TH-35

Short description of H04 series. Pozostałe sterowniki są uboższymi wariacjami H04. Więcej informacji na www.plcmax.pl

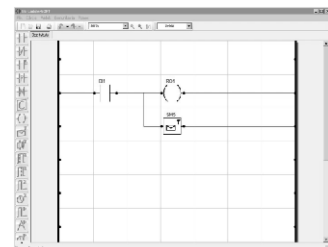


PURPOSE

H04-type controller has a built GSM communicator. It is designed to solve large-scale task management of technological processes and exchange data via the mobile phone GSM 900/1800 networks in voice mode (using DTMF function) and SMS.

MAX Logic H04 is one of the few drivers to enable connection and use it without the elements of programming. Using menu configurator, anyone can utilize who does not want to know the language and the complicated procedures of PLC programming.

With universal design, and service created for the driver programming language ForthLogic (modification FORTH) and the program "ladder" MAX-LadderSOFT driver is not only used in home automation as control working conditions and remote control devices, but also as an element of control and supervision of industrial automation equipment small and medium level of technological advancement.



MAX-LadderSOFT

FUNCTIONS

WORKING MODES - determines the status of implementation of logical functions of the controller:

- Work in CONFIGURATION mode is compatible with a given algorithm in the configuration menu.
- Work in FORTH mode is consistent with the logic defined by the applications in ForthLogic or the "ladder" MAX-LadderSOFT.
- Work in mixed mode to work mode driver setting of SETUP mode FORTH for the at least one relay output or digital. It is the separation of the work out of the CONFIGURATION mode. Control of the output is then determined using in ForthLogic application.

- work in dialog mode is a special kind of work with the controller allows to work directly with the forth-system using Microsoft Hyperterminal through which a user communicates with the driver (MAX-PC connection USB cable). Such a program is called terminal window where the user via the computer keyboard can make speech and language ForthLogic orders system and the forth-system directly analyzes and executes them, giving back about the correctness of performance or failure.



HyperTerminal

REMOTE CONTROL AND COMMUNICATIONS - remote control allows easy and clear way to manage and monitor outputs operating status of devices connected to the driver's input using a mobile phone:

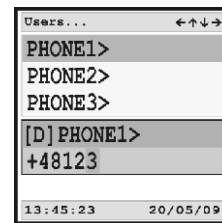
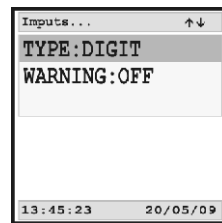
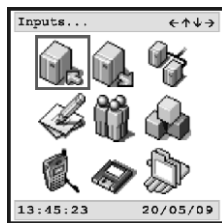
Operator MENU VOICE - (play audio files type. Wav files) allows remote control mode with a standard voice call functions using DTMF (choice of options by pressing the desired button, the phone keypad).

SMS COMMANDS - (input SMS) is a standard and defined command language ForthLogic, which are directly implemented by the driver.

NOTICE - the function of instant information, voice or text message sent to the phone user to change the status of digital or analog.

USER INTERFACE - consists of a graphical color screen, LED display, keyboard and audio signal generator, which together with graphical-text configuration menus allow you to create logical functions work with low complexity. The controller has an application menu, voice activated from the configuration menu (there is also the possibility to program your own menus using voice ForthLogic programming language). All these elements create a modern and dynamic way to communicate with the user.

CONFIGURATION MENU - graphical-text menu enables you to set driver functions, configure the type of inputs, outputs, set of functions, given phone numbers for that are to be sent notification, establish a lockout, given the parameters for the implementation of specific tasks and system parameters



ACCESS BLOCKING - ability to set passwords against unauthorized interference in the work of the driver. Password is working at the entrance to the configuration menu and the remote control by a voice menu or SMS.

RECORDER - record changes in the operation of the controller (date, time, change in inputs and outputs, a GSM, etc). Registration data are saved in the driver's internal memory or SD card.

STATUS EC / OUTPUT - display the status of inputs and outputs allowing the optical signal of the driver work - informs about firmware version, available memory and power supply voltage parameters.

SYSTEM CLOCK- allows you to associate certain events with a particular logical time and date.

MODBUS RTU - a communications protocol allowing the communication device via serial port RS-485.

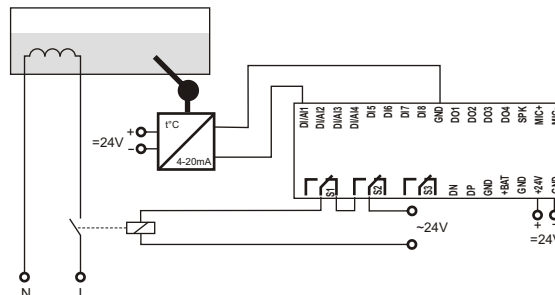
MICROPHONE - microphone elektretowego. Allows you to listen "live" during a voice call.

Speaker - output audio channel . Allows to deduce *.wav files to an external speaker.

POWER SOURCE - Built-in battery charger emergency power supply (reserve).

**Example settings for temperature control with remote control.
Functions set by using the configuration menu.**

Enclose the system remotely via SMS or a voice menu, setting the contact S2 in the active position. In the case of lower temperature from the set S1 is attached heating relay. After crossing the temperatures above the specified threshold contact S1 disconnects heater. After a decline in the temperature of the heater hysteresis value will be re-attached.



Configuration:

Menu Inputs → DI/AI 1 → TYP: I (4-20mA)

Menu Inputs → DI/AI 1 → CALL: OFF

Menu Inputs → DI/AI 1 → UNIT: ST

Menu Inputs → DI/AI 1 → SCALE> [Set the temperature sensor in accordance with its specifications (as given by the sensor manufacturer) , eg. 5+35]

Menu Inputs → DI/AI 1 → TRESHOLD+HIST> [set the temperature threshold and hysteresis of return, such as threshold 22; hysteresis 2]

Menu Output → RO 1 → WORK: DI/AI 1