JUMO

JUMO mTRON

for stock items see price list

Operating unit

Brief description

The operating unit is a module of the JUMO mTRON control and automation system. The housing measures 151.6 mm x 80.3 mm x 43.2 mm (W x H x D) and is suitable for flush panel mounting.

As man-machine interface the operating unit provides optimum and orderly insight into the process states and the system parameters of the JUMO mTRON automation system. It has a back-lit LC display of 2 x 20 places. Only six keys are required for operating the modules and setting their parameters. The process information to be shown on the LC display is configured graphically on a PC as process window, using the setup editor of the JUMO mTRON-iTOOL project design software. Up to 16 process windows and 16 alarm windows can be created. The arrangement of the process window and the combination of the process variables in a process window can be freely determined by the user.
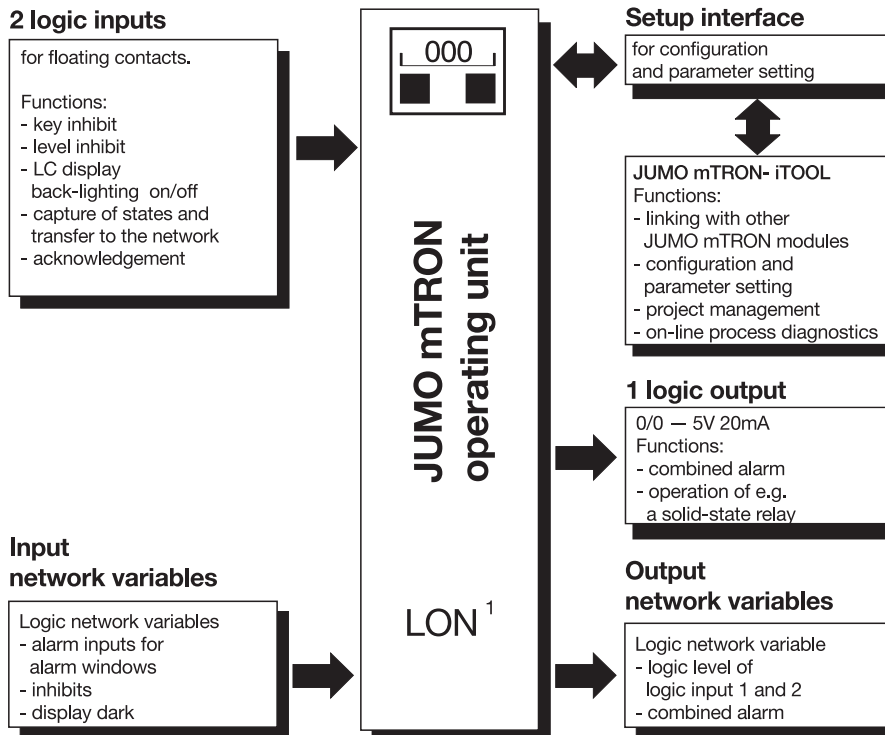
After downloading the process windows from the PC to the operating unit they appear on the LC display after pressing the key. This method of freely configuring the LC display offers process-oriented insight into the system states.

When configuring or setting parameters of a JUMO mTRON module, the appropriate instrument is selected through the operating unit. A pre-defined menu structure on the operating unit provides clear access to the functions of the module for configuration or parameter setting.

Type 704035/0-..

Block structure

2 logic inputs

for floating contacts.

Functions:
- key inhibit
- level inhibit
- LC display
  back-lighting on/off
- capture of states and
  transfer to the network
- acknowledgement

Input network variables

Logic network variables
- alarm inputs for
  alarm windows
- inhibits
- display dark

000

JUMO mTRON operating unit

LON [1]

Setup interface

for configuration
and parameter setting

JUMO mTRON- iTOOL
Functions:
- linking with other
  JUMO mTRON modules
- configuration and
  parameter setting
- project management
- on-line process diagnostics

1 logic output

0/0 — 5V 20mA
Functions:
- combined alarm
- operation of e.g.
  a solid-state relay

Output network variables

Logic network variable
- logic level of
  logic input 1 and 2
- combined alarm

Features

■ **Operation and display**
of the entire JUMO mTRON automation system through process windows

■ **Configuration and parameter setting**
on all modules of a JUMO mTRON automation system

■ **Display**
of up to 16 process-operated alarms

■ **Setup interface**
For configuration and parameter setting the module is linked to a PC via a PC interface

■ **Plug & Play function**
Problem-free replacement of modules without re-configuration

Displays and controls
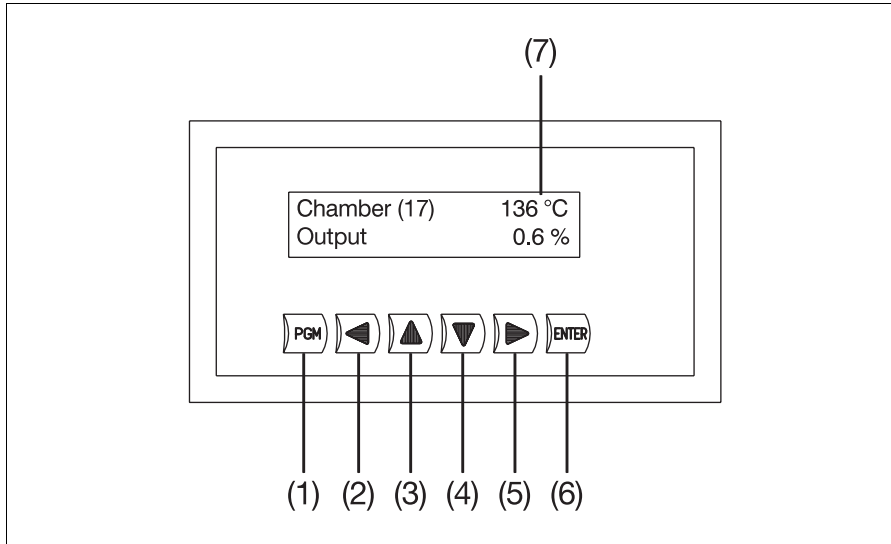
(1)	**PGM** - key for changing from operating level to parameter level	(4)	**Selection key** selects backwards between different items in the ring list (decrementing)
(2)	**Backwards** - moves one step backwards without storing	(5)	**Forwards** moves one step forwards without storing
(3)	**Selection key** selects forwards between different items in the ring list (incrementing)	(6)	**ENTER** acknowleges edited values and alarms
		(7)	**LC display** 2 x 20 places

Technical data

Hardware inputs

Logic inputs

activation: floating contacts
sampling time: 500 msec for all inputs
Functions:
- key inhibit
- level inhibit
- LCD back lighting on/off
- capturing states and transferring them to the network

Hardware outputs

Logic output

logic signal: 5 V 40 mA, short-circuit proof

Function:
- operating e.g. an external solid-state relay when conditions set in software are fulfilled (e.g. alarm states)

Input network variables

Logic network variables

Functions:
- inhibiting operating levels (2)
- acknowledging alarms (1)
- setting the logic output (1) (combined alarm function, linked as logical OR)
- activating the alarm windows (16)

Output network variables

Logic network variables

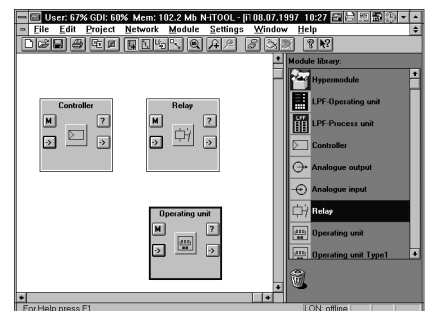Output cycle: event-controlled, but at least every 6 sec

Functions:
- status of the two logic inputs
- status of the combined alarm

General data

Environmental conditions to EN 61 010

Operating and ambient temperature:
0 — 55°C
Permitted storage temperature:
–40 to +70°C
Relative humidity: rH 80 % max.
Pollution degree 2
Overvoltage category 2

Housing

Front: aluminium, with front membrane
Flammability Class: UL 94 VO
Protection: IP65 (front), IP20 (rear)
Installation: flush panel mounting using two brackets inserted at the sides

Supply

110 — 263V AC +10/–15%, 48 — 63 Hz, or 20 — 53V AC/DC, 48 — 63 Hz
Power consumption: 10 VA max.

Network (LON interface)

Transceiver: free topology FTT-10A (ring, star, line or mixed structure)
Baud rate: 78 kbaud
Max. lead length (depending on lead type):
line: 2700 m
star: 500 m
ring: 500 m
mixed: 500 m
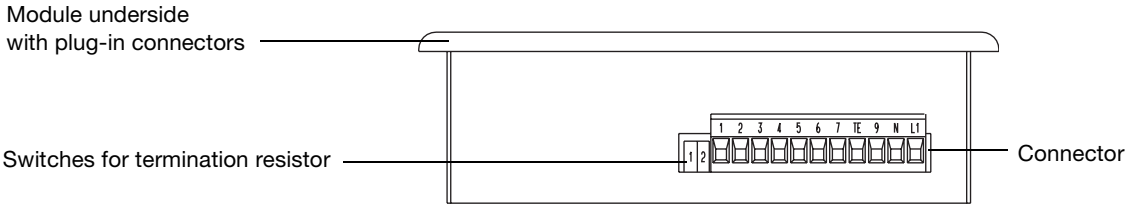Max. number of modules: 64

Operation and project design

The JUMO mTRON operating unit can be used for operating, parameter setting and configuring of JUMO mTRON modules.
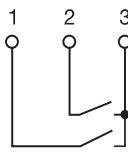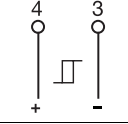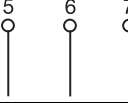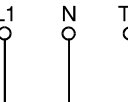
The JUMO mTRON-iTOOL project design software permits convenient design and start-up of a JUMO mTRON system.

The projects can be archived and documented. Individual modules are linked via LON by assigning network variable (NV) names.
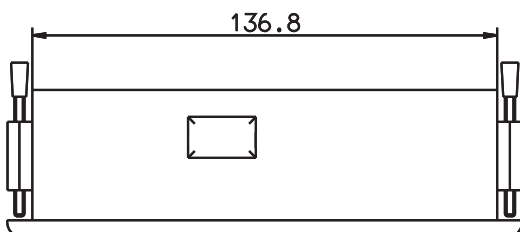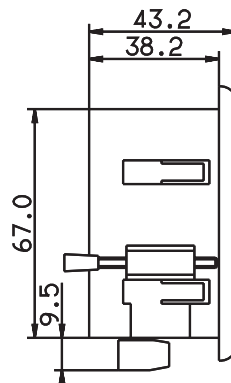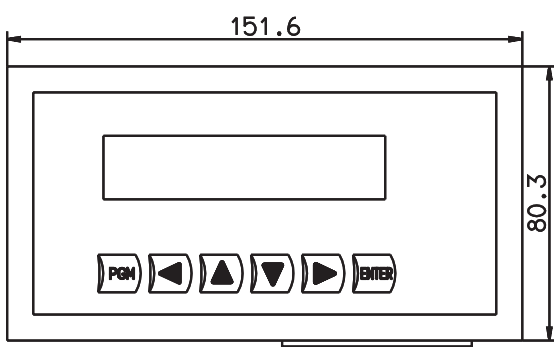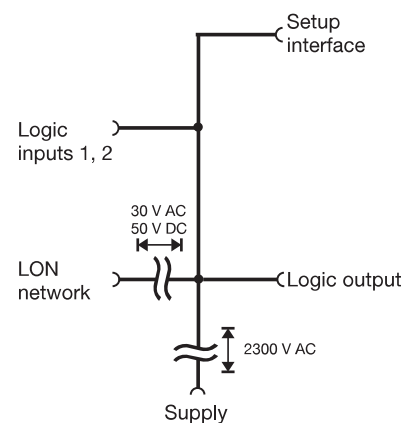
Connection diagram

Module underside
with plug-in connectors

Switches for termination resistor

Connector

Connection for	Terminals		Notes	Diagram
Logic inputs	Input 1	Input 2		
Floating contacts	1 3	2 3		1 2 3
Logic output 5V 40mA	4 + 3 −			4 3 + −
LON interface	7 = TE		screen	5 6 7
	6 = Net_A 5 = Net_B		any polarity	
	9 = not used			
Supply as label	**AC**	**DC**		
	L1 line N neutral TE technical earth	L1 } any N } polarity TE technical earth		L1 N TE

Dimensions

151.6

80.3

43.2
38.2

67.0

9.5

136.8

Isolation

Setup
interface

Logic
inputs 1, 2

30 V AC
50 V DC

LON
network

Logic output

2300 V AC

Supply

Panel cut-out to DIN 43 700
$138^{+1.0}$ mm x $68^{+0,7}$ mm

03.00/00336366

Ordering details

(1)

704035/0- [..]

(1) Supply . ...

Type	Code
110 — 240V AC, +10/–15%, 48 — 63 Hz	**23**
20 — 53V AC/DC, 48 — 63 Hz	**22**

Standard accessories

2 mounting brackets
1 Installation Instructions M 70.4035.4

Accessories

**PC interface
with TTL/RS232C converter**
for connecting the module to a PC;
length 2m.
Sales No. 70/00301315

**Project design software
JUMO mTRON-iTOOL**
Using the JUMO mTRON-iTOOL project
design software, the modules can be desi-
gned graphically on the PC. The user is
able to link modules of the JUMO mTRON
family and to configure the application-
specific parameters.

System Manual JUMO mTRON
Documentation of configuration, parame-
ter setting and installation of the modules.
Sales No. 70/00334336

JUMO mTRON modules

Controller module
Data Sheet 70.4010

Relay module
Data Sheet 70.4015

Analogue input module
Data Sheet 70.4020

Analogue output module
Data Sheet 70.4025

Logic module
Data Sheet 70.4030

Operating unit
Data Sheet 70.4035

Communication module
Data Sheet 70.4040

**Project design software
JUMO mTRON-iTOOL**
Data Sheet 70.4090

mm	inch
9.5	0.37
38.2	1.19
43.2	1.70
67.0	2.64
$68^{+0.7}$	$2.68^{+0.03}$
80.3	3.16
136.8	5.39
$138^{+1.0}$	$5.43^{+0.04}$
151.6	5.97