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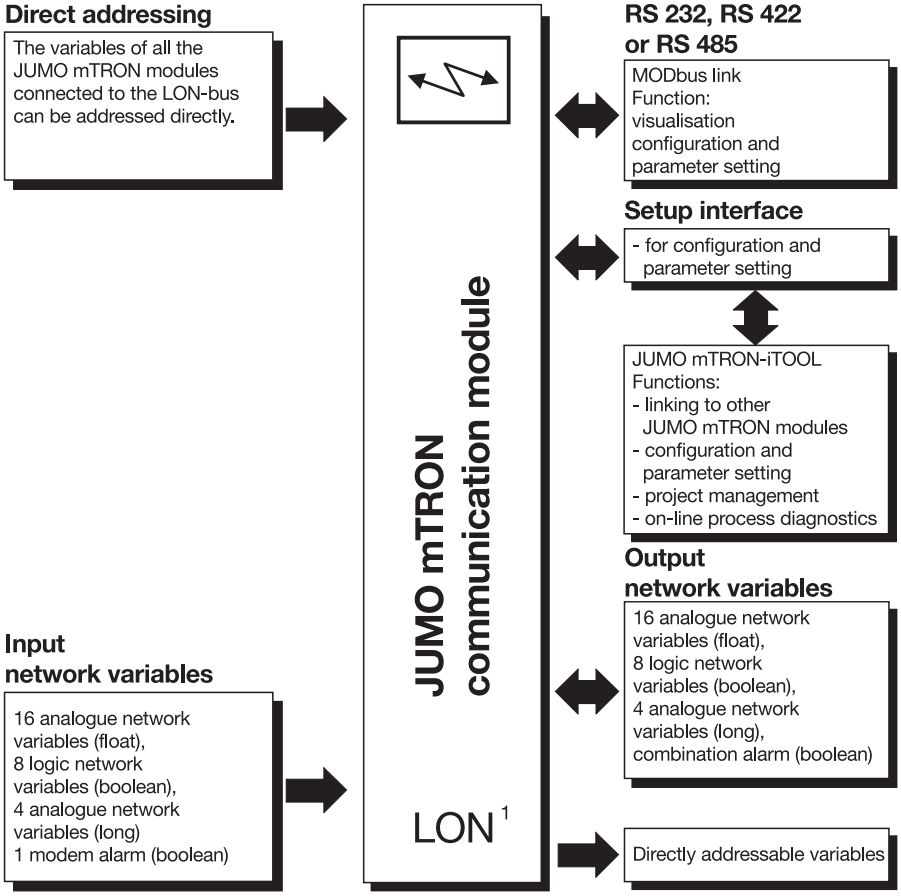
Communication module

Brief description

This unit is a module of the JUMO mTRON control and automation system. The plastic housing measures 91 mm x 85.5 mm x 73.5 mm (W x H x D) and is mounted on a standard rail.
The module is used for communication between the JUMO mTRON modules and higher-level units with MODbus or Jbus interface. The communication module has a LON interface with FTT-10A transceiver for linking to the JUMO mTRON installation and either an RS232, RS422 or RS485 interface for data transmission under the MODbus protocol. A setup interface is provided for parameter setting and configuration of the module via a PC under the JUMO mTRON-iTOOL project design software. The electrical connection is made through plug-in screw terminals.

Type 704040/0-...

Block structure

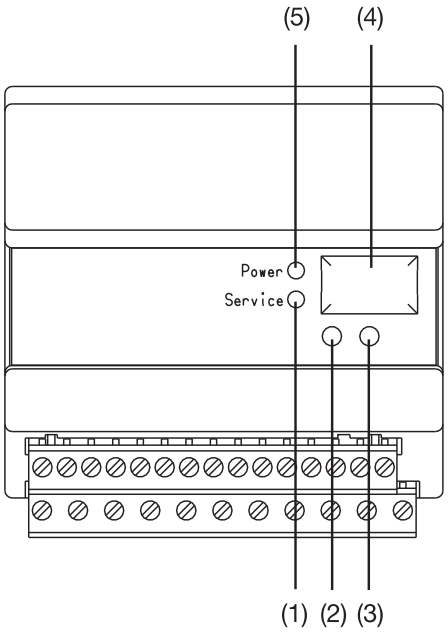


Features

- Visualisation via MODbus
- Connection to PLC via MODbus
- Configuration and parameter setting via JUMO mTRON-iTOOL project design software
- Modem operation for configuration and setting parameters of a JUMO mTRON automation system over any distance
- Several communication modules can operate in a network
- Automatic dialling of a telephone number via modem on alarm in the LON network
- Integral RS232, RS422 or RS485 interface

1. LON® = **L**ocal **O**perating **N**etwork
Registered trademark of the ECHELON Corporation

Displays and controls



(1)	**Service LED, red** - lights up on operating fault - flashes when the mechanical connection to the module from JUMO mTRON-iTOOL or the operating unit is being checked by a test handshake signal (“wink”)	(3)	**Installation key** the module reports to the JUMO mTRON-iTOOL project design software or the operating unit
(2)	**Switch** for the termination resistance of the LON network	(4)	**Setup interface** for the PC interface line which links the module to the PC
		(5)	**Power LED, green** lights up when the supply is switched on

Input network variables

Analogue network variables
– 16 variables “real” type
– 4 variables “long” type

Logic network variables
– 8 variables “bool” type
– 1 modem alarm “bool” type

Function:
They are linked to any network variable of other mTRON modules

Output network variables

Analogue network variables
– 16 variables “real” type
– 4 variables “long” type

Logic network variables
– 8 variables “bool” type

Function:
They can be written as output network variables of the communication module via MODbus.

General data

Electrical safety

as per EN 61010-1
Overvoltage category: II
Pollution degree: 2

Environmental influences

Operating and ambient temperature:
0 to 55 °C
Permitted storage temperature:
–40 to +70 °C
Relative humidity: rH 80 % max.
Electromagnetic compatibility
as per EN 61326-1
- interference emission:
  Class A - Only for industrial use -
- interference immunity:
  to industrial requirements

Housing

Material: plastic,
self-extinguishing
Flammability Class: UL 94 VO
Protection: IP20 (as per EN 60 529)
Mounting: on standard rail

Supply

110 — 240 V AC +10/–15 %, 48 — 63 Hz,
or 20 — 53 V AC/DC, 48 — 63 Hz
Power consumption: 5 VA max.

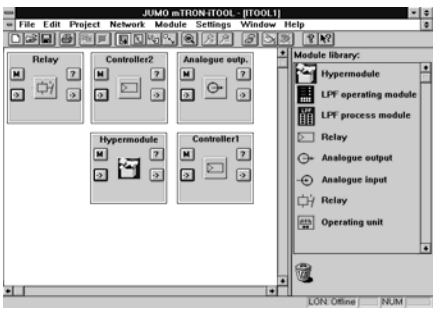
Network (LON interface)

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

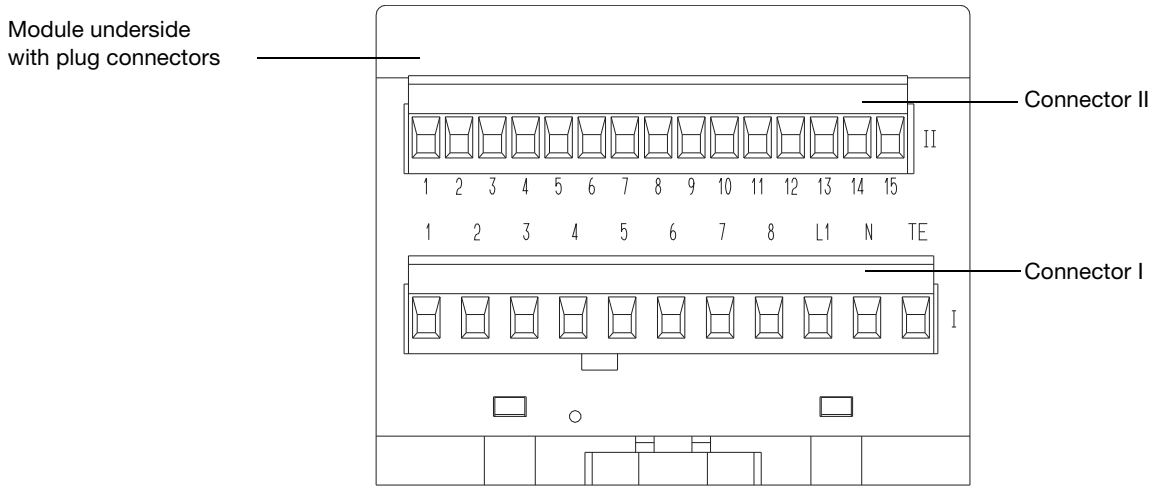
Operation and project design

Operation, parameter setting and configuration of JUMO mTRON modules can be carried out from the JUMO mTRON operating unit.

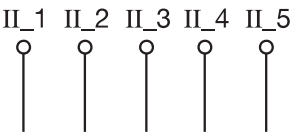
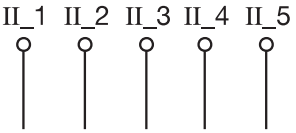
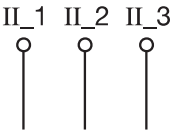
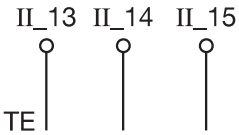
The JUMO mTRON-iTOOL project design software permits convenient design and start-up of a JUMO mTRON system.
The projects can be archived and documented. Individual modules are linked via LON by assigning network variable (NV) names.



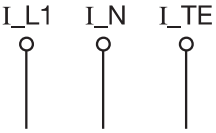
Connection diagram



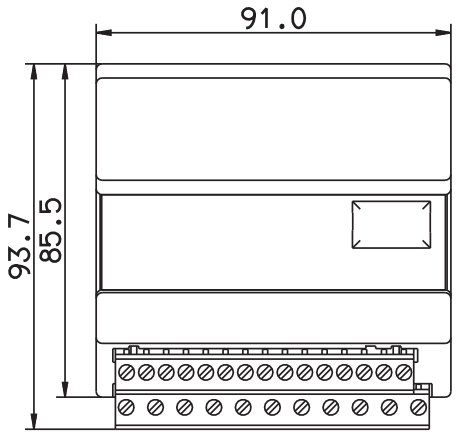
Connector II

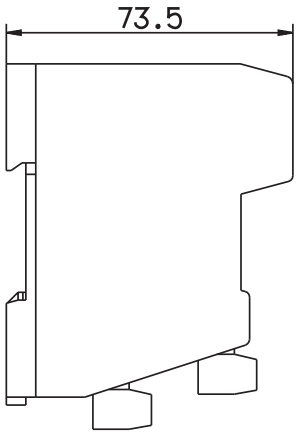
Connection for	Terminals	Notes	Diagram
RS232	II_1 II_2 II_3 II_4 II_5	GND RxD TxD CTS RTS	
RS422	II_1 II_2 II_3 II_4 II_5	GND TxD A TxD B RxD A RxD B	
RS485	II_1 II_2 II_3	GND RxD/TxD A RxD/TxD B	
LON interface	II_13 = TE	screen	
	II_14 = Net_A II_15 = Net_B	any polarity	

Connector I

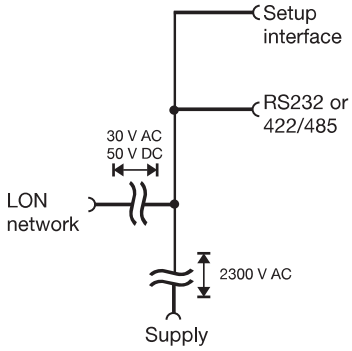
Connection for	Terminals	Notes	Diagram
Supply as label	I_L1 AC I_N I_TE	line neutral technical earth	
	I_L1 DC I_N I_TE	} any polarity technical earth	

Dimensions





Isolation



Ordering details

704040/0- (1) . . - (2) . .

(1) Outputs ....

Outputs	Code
Interface RS232	**51**
Interface RS422	**52**
Interface RS485	**53**

(2) Supply ....

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

Standard accessory

1 Installation Instructions B 70.4040.4

Accessories

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

Project design software JUMO mTRON-iTOOL
Using the JUMO mTRON- iTOOL project design software the modules can be designed 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, parameter 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

Communication module (gateway)

Brief description

The “mTRON to PROFIBUS-DP gateway” is an all-in-one unit with a switched-mode power supply, data transmission module (transceiver), controller (Neuron 3150) and a fieldbus controller in a compact case (with a bracket for mounting on a standard rail, if required).
The fieldbus controller acts as a slave to link up with PROFIBUS-DP.
The gateway serves to link an mTRON network with any number of mTRON modules to a PROFIBUS-DP network as a PROFIBUS-DP slave.
The automatic baud rate recognition enables baud rates from 9.6 kbps to 12 Mbps.

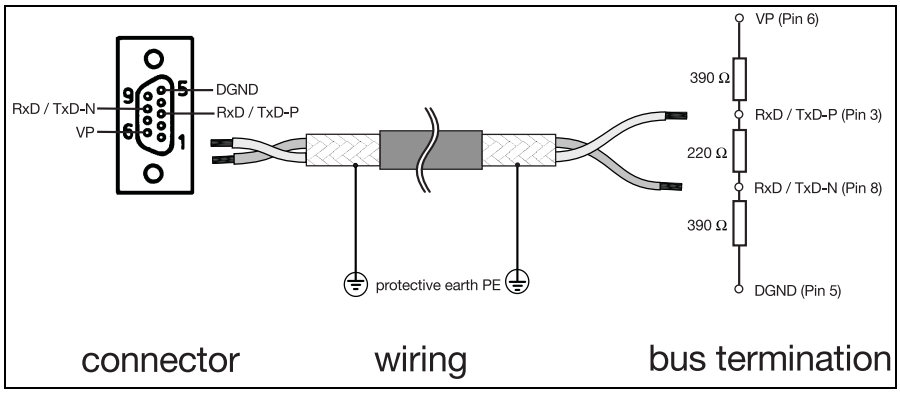
Type 704041/0-64-24

Cabling and bus termination

Supply voltage and LON connection

Pin assignment of the panel-mounting connector	
Pin No.	Function
1	positive supply voltage
2	ground
3	LON
4	LON

PROFIBUS-DP



Order details

	(1)	(2)
704041/0-	64	- 24

(1) Outputs ....

Outputs	Code
PROFIBUS-DP interface	**64**

(2) Supply . .

Type	Code
18 — 32V DC	**24**

Technical data

Neuron chip	3150 / 10MHz
EEPROM	Flash-EEPROM AT29C512
Supply	18 — 32V DC (unstabilised)
Transceiver	FTT10A
Configuration and data exchange	entirely via network variables
Material	ABS
Dimensions W x H x D	80 x 172 x 43mm