

SERIES D1
VALVE ISLAND WITH
COILVISION TECHNOLOGY



SERIES D1

COMPACT, MODULAR AND FLEXIBLE

D1 FIELDBUS

HIGH NUMBER OF MODULES

CAN BE CONNECTED WITH THE MAIN
FIELD BUS PROTOCOLS

FLEXIBILITY IN CONNECTING
DIFFERENT I/O MODULES



D1 MULTIPOLE

DIAGNOSTICS AND VALVE
COMMUTATION LED

MANUAL OVERRIDES

MODULARITY 1 SUB-BASES WITH
INTERCHANGEABLE CARTRIDGES



TECHNICAL CHARACTERISTICS

- Size 10.5 mm
- Flow 250 NL/min

COILVISION
TECHNOLOGY

Series D1 is the new valve unit able to ensure optimum productivity and flexibility for use in many industrial automation systems.

The modular single sub-bases, with an easy valve connection system and reduced dimensions, make the Series D1 valve island the ideal solution for all industrial applications that require quick and easy installation of pneumatic functions in restricted spaces.

Series D1 valve island can be connected to the main fieldbus protocols through the serial module. This combination makes it easy to integrate pneumatic and electrical functions in the most advanced automation systems, as it allows an increase in the number of controllable valves and interconnection of analog and digital I/O modules in a single network node. The Series D1 valve island is also equipped with CoilVision technology which can monitor and predict the wear and efficiency status of some parts of the solenoid valves.

BENEFITS



Compact design



**Individual, modular
sub-bases
in technopolymer**



**Flexibility in connecting
different I/O modules**



**Integrated diagnostics
and predictivity**



**Available protocols:
PROFIBUS-DP, CANopen,
EtherNet/IP, PROFINET,
EtherCAT, IO-Link**

The **serial module** enables control of the Series D1 valve island with the most common fieldbus protocols, making it easier to integrate pneumatic and electric functions in the most advanced automation systems.

Every communication protocol has its own peculiarities. In case of replacing the fieldbus, it will not be necessary to redesign the space in which the island is located as the CX4 module maintains the same dimensions.

BASE:

The same for all fieldbus nodes and I/O modules, it carries the internal communication signals.

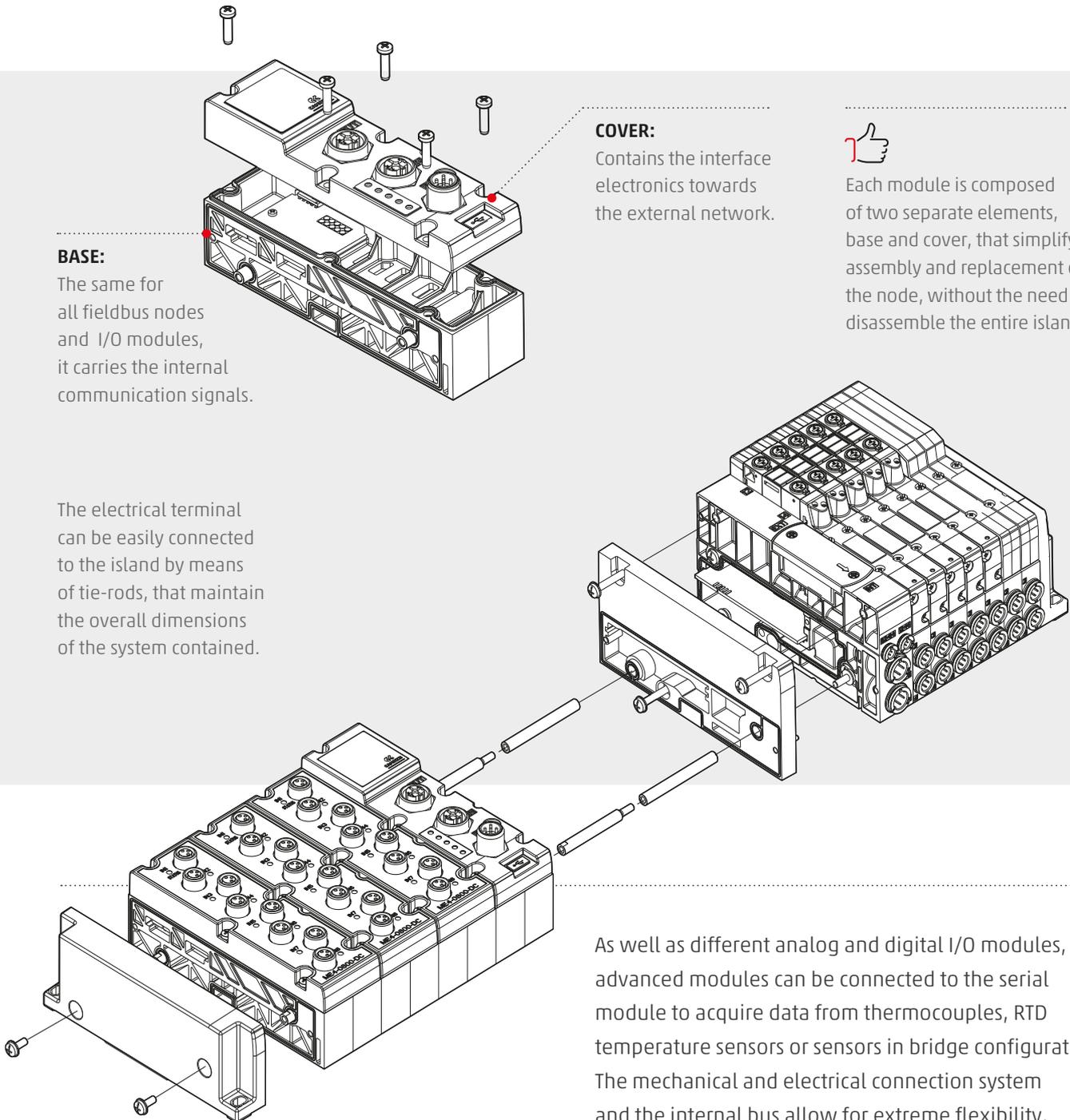
The electrical terminal can be easily connected to the island by means of tie-rods, that maintain the overall dimensions of the system contained.

COVER:

Contains the interface electronics towards the external network.



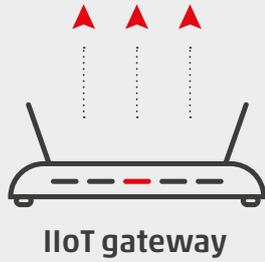
Each module is composed of two separate elements, base and cover, that simplify assembly and replacement of the node, without the need to disassemble the entire island.



As well as different analog and digital I/O modules, advanced modules can be connected to the serial module to acquire data from thermocouples, RTD temperature sensors or sensors in bridge configuration. The mechanical and electrical connection system and the internal bus allow for extreme flexibility, so you are free to add, move, remove and replace different modules as well as replace its communication protocol. All this in restricted spaces.

Series D1 General Data

PNEUMATIC SECTION	
Valve construction	spool with seals
Valve functions	5/2 monostable and bistable 2 x 3/2 NC 2 x 3/2 NO 5/3 CC - CP - CO 1 x 3/2 NC + 1 x 3/2 NO
Materials	spool: AL - spool seals: HNBR - other seals: NBR - body: AL - end caps and subbase: polymer
Connections	port 2 and 4, size 10.5 mm: tube Ø 4, tube Ø 6 exhaust 3 and 5: tube Ø 8 supply 1: tube Ø 8 exhaust 8/2/84: tube Ø 4 supply 12/14: tube Ø 4
Temperature	0 ÷ 50 °C
Air characteristics	compressed, filtered and non-lubricated air in class 7.4.4 according to ISO 8573-1:2010. If lubrication should be necessary, only use oils with a maximum viscosity of 32 Cst and the version with external servo pilot. The air quality for the servo pilot should be of class 7.4.4 according to ISO 8573-1:2010 (do not lubricate).
Valve size	10.5 mm
Operation pressure	-0.9 ÷ 10 bar
Pilot pressure	2.5 ÷ 7 bar 4.5 ÷ 7 bar (with working pressure exceeding 6 bar for the version 2x3/2)
Flow rate	250 NL/min
Mounting position	any position
Protection Class	IP65
ELECTRICAL SECTION - MULTIPOLE VERSION	
Type of Sub-D connector	25 or 44 pins
Max. absorption	0.8 A (with Sub-D connector 25 pins) 1 A (with Sub-D connector 44 pins)
Supply voltage	24 V DC +/-10%
Max. number of coils to operate	22 on 11 valve positions (with Sub-D connector 25 pins) 38 on 19 valve positions (with Sub-D connector 44 pins)
Signalling LED	green LED - presence of power red LED - anomaly Valve: yellow LED - presence of power blinking yellow LED - operating fault
ELECTRICAL SECTION - FIELDBUS VERSION	
General data	see multi-serial modules section
Max. absorption	2.5 A
Supply voltage	24 V DC +/-10% logic supply 24 V DC +/-10% power supply
Max. number of coils to operate	128 on 64 valve positions
Max. number of digital input	128
Max. number of analog input	16
Max. number of digital output	128
Max. number of analog output	16



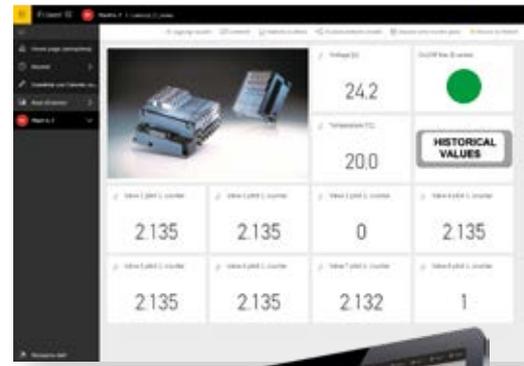
Series D1
valve island



Series PRE
Proportional
pressure
regulator



Series DRCS
Drive for motors



UVIX

Powered by  **DIGITAL**
Industrial Cyber-Physical
Systems

DIAGNOSTIC CHARACTERISTICS



ON/OFF status
of each valve



Health status



Short circuit
or solenoid fault



Temperature monitoring
of the Master module
and the solenoids



Interrupted solenoid



Over and under
voltage



976 Cycle counter



Power consumption



COILVISION
TECHNOLOGY

CoilVision technology has been developed to constantly monitor the operating parameters of the solenoid that drives the spool. Each operation of the solenoid, in different cyclic configurations and environmental conditions, is analysed to acquire information that is processed by software algorithms to diagnose and predict the health status of the component.

Contacts

Camozzi Automation S.p.A.

Società Unipersonale
Via Eritrea, 20/I
25126 Brescia
Italy
Tel. +39 030 37921
info@camozzi.com

Customer Service

Tel. +39 030 3792790
service@camozzi.com

Export Department

Tel. +39 030 3792262
sales@camozzi.com



Automation

