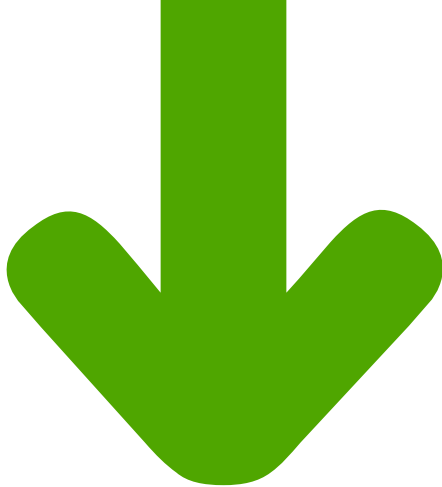


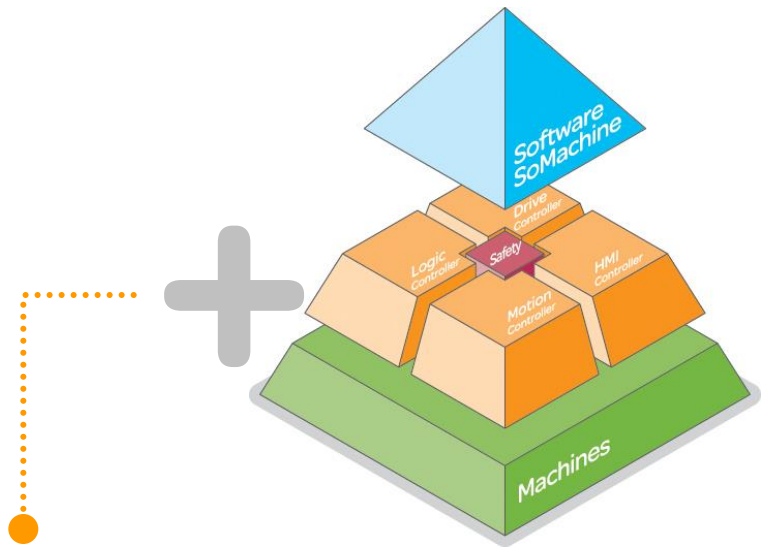
# Achieve 100% machine flexibility and optimization

Modicon OTB, TM5 and TM7

Modular I/O systems



Maximize your machine flexibility with the Modicon OTB / TM5 / TM7 modular I/O systems



SoMachine

# Innovate and improve machine flexibility while reducing costs

- **Flexibility** and **cost optimization** are the key benefits of an automation solution that is completely adapted to your needs.
- Our modular Modicon™ OTB, TM5 and TM7 I/O systems offer this flexibility and provide **total design freedom** by allowing **local, remote or distributed automation architectures**.
- They enhance the Flexible Machine Control concept that provides you with 100% machine flexibility.

# From simple to complex machines...

- ...we have the modular I/O systems that meet your needs



**Modicon OTB  
(IP20)**  
for simple machines  
up to 248 I/Os



**Modicon TM5  
(IP20)**  
for complex  
machines or  
installations  
up to 2400 I/Os



**Modicon TM7  
(IP67)**  
for complex  
machines or  
installations

**Why select  
the Modicon  
modular I/O  
system**



# Total machine design freedom

## ● Benefits

- Simplified machine architectures
- Reduced set-up and commissioning time
- Smaller enclosures
- Reduced cabling errors and costs
- Easy maintenance using on-board diagnostics, as close as possible to the sensors/actuators

## ● Reduce engineering time

- Fully compatible with SoMachine software
- Certified FDT/DTM technology for all compatible automation software systems (on CANopen)

**30%**  
Potential  
reduction  
in assembly,  
wiring, and  
commissioning  
time!



SoMachine™

# Modicon OTB (IP20)

for simple machines up to 248 I/Os



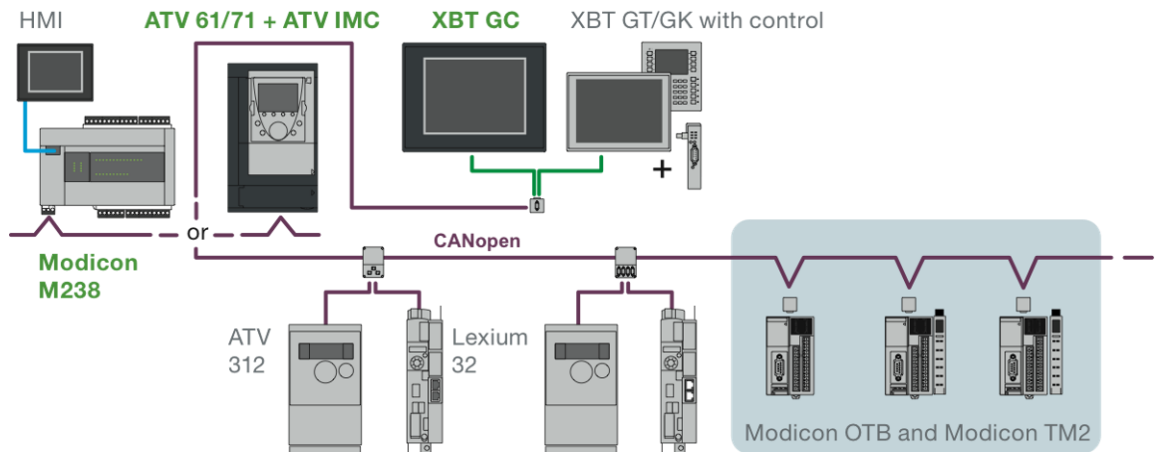
CANopen  
COMBO  
Ethernet  
MODBUS

**Simple and compact,** the Modicon OTB is an **optimized** modular I/O system that is designed to meet your challenges for **cost reduction, size flexibility, and simplicity.**

- **Optimum solution for cost, function, size, and simplicity**
  - Three communication base modules each with 20 integrated I/Os
  - Expandable (from 8 — 32 channel I/O modules)
  - Targeted range: 24V DC
  - Wide range of Modicon TM2 I/O expansion modules, common to Modicon OTB I/O system, Modicon M238 Logic controllers and XBTCG HMI controllers
- **Simple installation**
  - Ideal compactness ratio: 20 I/Os within a width of 55 mm, including fieldbus connection
  - Removable terminal block
  - Direct mounting on DIN rail
  - Simple clip-on of I/O expansion modules on base modules.

# Modicon OTB: distributed or local I/O

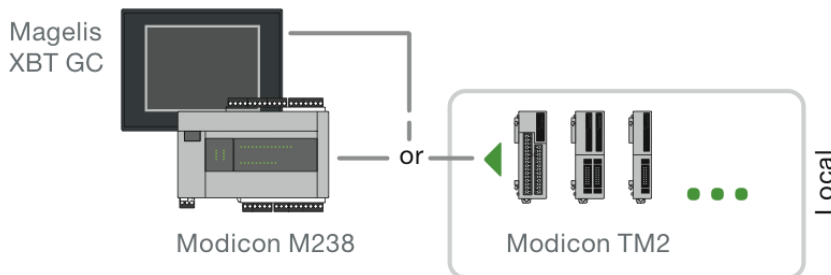
## Distributed I/O CANopen example



A distributed architecture that is both simple and economical.

**Our winning solution:**  
Modicon OTB + M238 Logic controllers or Magelis™ XBTGC HMI controllers or Altivar™ IMC Drive controller.

## Local or remote I/O



**Cost optimization:**  
Modicon TM2 I/O expansion modules are also common to Modicon M238 and Magelis XBTGC.



# Modicon TM5 (IP20)

## for complex machines or installations



With its **modular and evolutionary design**, the Modicon TM5 is designed to meet your challenges for **flexibility, performance, and modularity.**

- **Flexible and scalable I/O configuration**

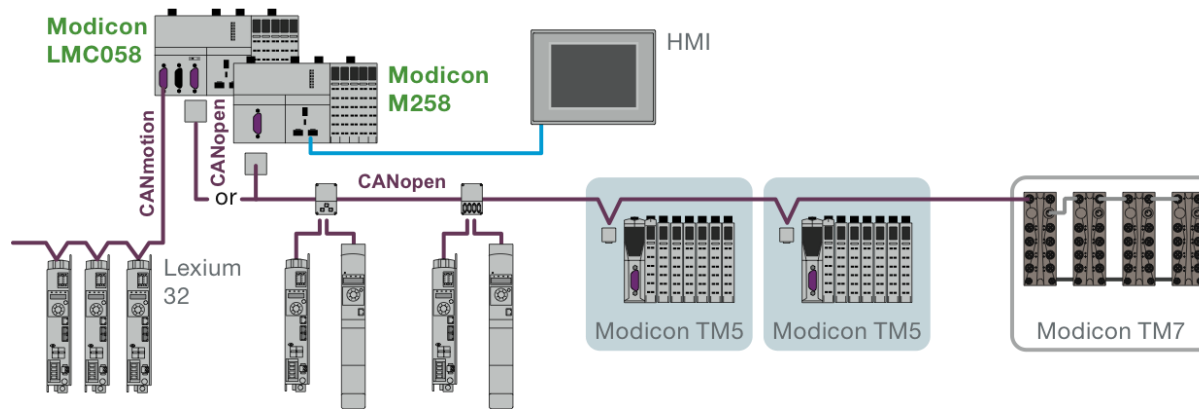
- Distributed I/O via the CANopen® interface module, or local or remote expansion via the local TM5 expansion bus on Modicon M258 and Modicon LMC058 controllers (PLC and PAC)
- Wide range of Modicon TM5 I/O expansion modules, common to Modicon M258 Logic controllers and LMC058 Motion controllers.

- **Easy maintenance and installation**

- Embedded diagnostics for local and remote supervision
- Hot-swappable modules (I/O changeable during operation)
- Simple cabling: spring terminals, removable terminal blocks.

# Modicon TM5: distributed or local/ remote I/O

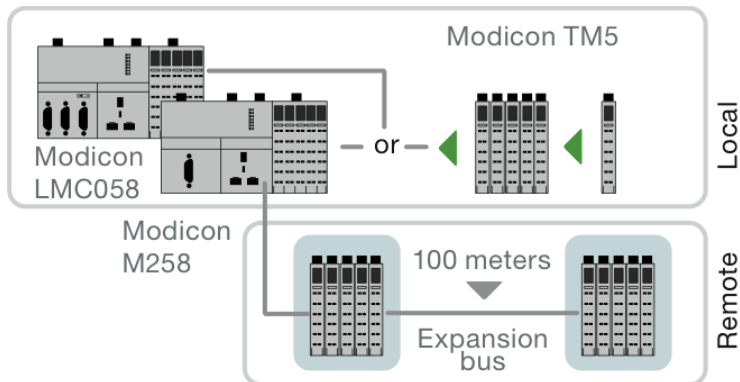
## Distributed I/O CANopen example



A distributed architecture providing performance and maximum flexibility whilst reducing your costs.

**Our winning solution:**  
Modicon TM5 + Modicon M258 Logic controllers or Modicon LMC058 Motion controllers.

## Local or remote I/O



### Cost optimization:

Modicon TM5 I/O expansion modules are also common to Modicon M258 and Modicon LMC058.

### Consistency:

Embedded I/O on local or remote configurations with synchronized data acquisition.

# Modicon TM7 (IP67)

for complex machines or installations



With its **robust design** and maximum **flexibility**, the Modicon TM7 is a modular I/O system that is suitable for installation at the **heart of a process, or in harsh environments.**

- **Robust design**

- IP protection rating: 67
- Temperature range: -10 to +60°C (14 to 140°F)
- EMC protection.

- **Easy maintenance and installation**

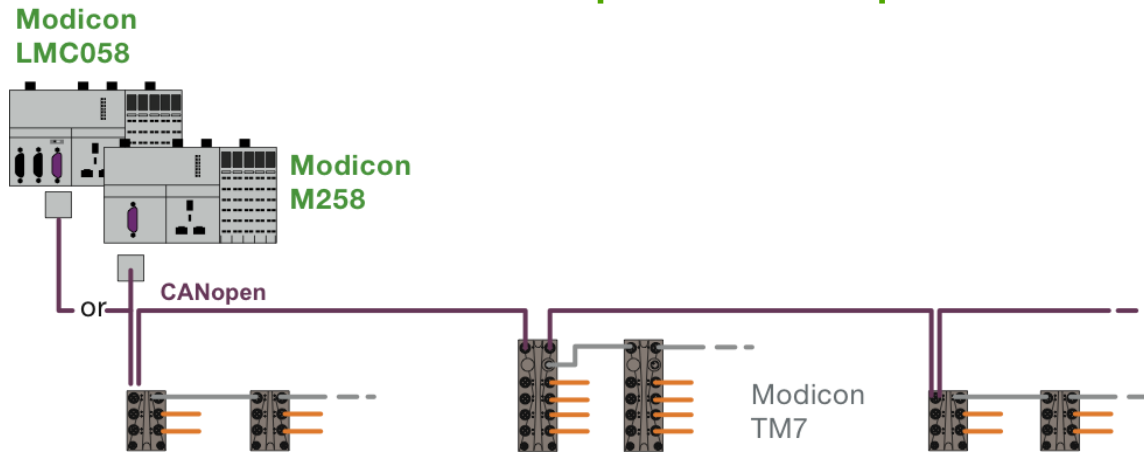
- Embedded diagnostics for local and remote supervision
- Simple cabling: M8 or M12 connector

- **Flexible and scalable I/O configuration**

- Distributed I/O via CANopen interface block, or remote I/O via local TM5 expansion bus on Modicon M258 and LMC058 controllers (PLC/PAC)
- Complete offer with digital and analog IP67 blocks
- Perfect suitability for your requirements with freely configurable I/O.

# Modicon TM7: distributed or remote I/O

## Distributed I/O CANopen example

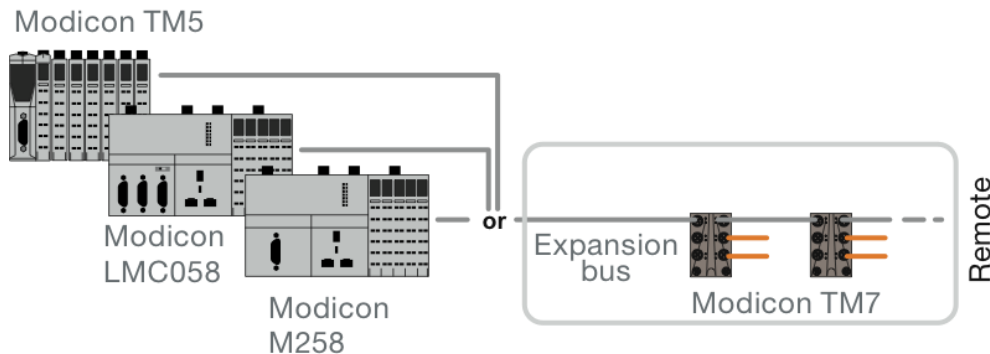


A distributed architecture for high performance and reliability even in the harshest environments.

### Our winning solution:

Modicon TM7 + Modicon M258 Logic controllers or Modicon LMC058 Motion controllers.

## Local or remote I/O



### Fast and economical wiring:

Due to the common expansion bus with Modicon TM5, M258 and LMC058, the Modicon TM7 system can be used to control the I/O remotely.



# Modicon

modular I/O  
system  
selection guide

# Optimized Modicon OTB (IP20)

		CANopen	Ethernet TCP/IP network (2)	Modbus Serie network
<b>Applications</b>		<b>Optimum distributed I/O (IP 20)</b>		
<b>Compatibility</b>		Modicon M238 Logic controller XBT GC, XBT GT/GK HMI controller with monitoring function Altivar IMC Drive controller		
<b>Configuration with I/O expansion modules</b>	Module type	Modicon TM2: Digital I/O modules Analog I/O modules Expert modules Common distribution modules		
	Capacity	For 1 Modicon OTB interface module: 7 Modicon TM2 modules max. Including: Digital I/O modules: 132 I/O max. with modules with screw terminals 188 I/O max. with modules with spring terminals 244 I/O max. with modules with HE10 connector Analog I/O modules with screw terminals: up to 7 x 8 inputs, or 7 x 2 outputs, or 7 x (4I/2O) Expert modules Common distribution module		
<b>Integrated I/O</b>	Number and type (depending on model)	12 x 24 V DC digital inputs 2 x 24 V DC solid state outputs 6 x 30 V DC/240 V AC relay outputs 2 channels: 5 kHz/20 kHz 2 PWM function channels		
		<b>OTB1C0DM9LP</b>	<b>OTB1E0DM9LP</b>	<b>OTB1S0DM9LP</b>

- (1) Modicon TM2 I/O expansion modules, please consult:  
 > MachineStruxure™ catalogue (MKTED211041EN), also downloadable from [www.schneider-electric.com](http://www.schneider-electric.com)  
 > Modicon M238 brochure (DIA6ED1081201EN)

# Performance Modicon TM5 (IP20)

		CANopen			
<b>Applications</b>		<b>Performance distributed I/O (IP 20)</b>			
<b>Compatibility</b>		Modicon M258 logic controller Modicon LMC058 motion controller			
<b>Configuration with I/O expansion modules</b>	<b>Module type</b>	Modicon TM5 modules and/or Modicon TM7 blocks: (2) Digital I/O modules Analog I/O modules Common distribution modules (TM5 only)			
	<b>Capacity</b>	For 1 Modicon TM5 interface module: 40 TM5/TM7 modules max. Including: Digital I/O modules: 240 inputs and 240 outputs max. Analog I/O modules: 20 inputs and 20 outputs Maximum distance from the expansion bus (TM5 or TM7): 2500 m. Maximum distance between 2 islands of TM5 modules: 100 m. Maximum distance between 2 TM7 blocks: 100 m. Maximum distance between 1 island of TM5 modules and 1 TM7 block: 100 m			
<b>Type of component to be order separatly</b>		CANopen electronic interface	Power distribution electronic module	Bus base 24 DC	Terminal block
		<b>TM5NCO1</b>	<b>TM5SPS3</b>	<b>TM5ACBN1</b>	<b>TM5ACTB12PS</b>

(2) Modicon TM5 and Modicon TM7 I/O expansion modules and blocks, please consult:  
 > MachineStruxureTM catalogue (MKTED211041EN), also downloadable from [www.schneider-electric.com](http://www.schneider-electric.com)  
 > Modicon M258 or Modicon LMC058 brochures (DIA6ED1091008EN / DIA6ED1091009EN)

# Performance Modicon TM7 (IP67)

		CANopen		
Applications		Performance distributed I/O (IP 67)		
Compatibility		Modicon M258 logic controller Modicon LMC058 motion controller		
Configuration with I/O expansion modules	Module type	Modicon TM5 modules and/or Modicon TM7 blocks: Digital I/O modules Analog I/O modules Common distribution modules (TM5 only)		
	Capacity	For 1 Modicon TM7 CANopen interface block:: 40 TM5/TM7 modules max. Including: Digital I/O modules: 240 inputs and 240 outputs max. Analog I/O modules: 20 inputs and 20 outputs Maximum distance from the expansion bus (TM5 or TM7): 2500 m. Maximum distance between 2 islands of TM5 modules: 100 m. Maximum distance between 2 TM7 blocks: 100 m. Maximum distance between 1 island of TM5 modules and 1 TM7 block: 100 m		
Max number of digital channels		8 channels that can be configured as inputs or outputs	16 channels that can be configured as inputs or outputs	16 channels that can be configured as inputs or outputs
Digital I/O channels	Sensor connector	3-way female M8, 1 channel per connector	3-way female M8, 1 channel per connector	A-coded 5-way female M12, 2 channels per connector
	Actuator connector	3-way female M8, 1 channel per connector	3-way female M8, 1 channel per connector	A-coded 5-way female M12, 2 channels per connector
Interface I/O block power supply	Input connector	4-way male M8	4-way male M8	4-way male M8
	Output connector	4-way female M8	4-way female M8	4-way female M8
		<b>TM7NCOM08B</b>	<b>TM7NCOM16B</b>	<b>TM7NCOM16A</b>



# Make the most of your energy

