

Tested and validated solutions for industrial cranes

Improving your machine
and business performance



Your partner in hoisting



Increasing productivity
for hoisting equipment



"Tested and validated"
Schneider Electric
solutions



Up to 25% savings
in productivity

Innovation in automation meets standards and productivity
for hoisting equipment.
Our tested and validated solutions increase the reliability
and the safety of your machines, extending their service life
and performance, while reducing your costs.

Discover a selection of solutions used in the most frequent industrial crane applications

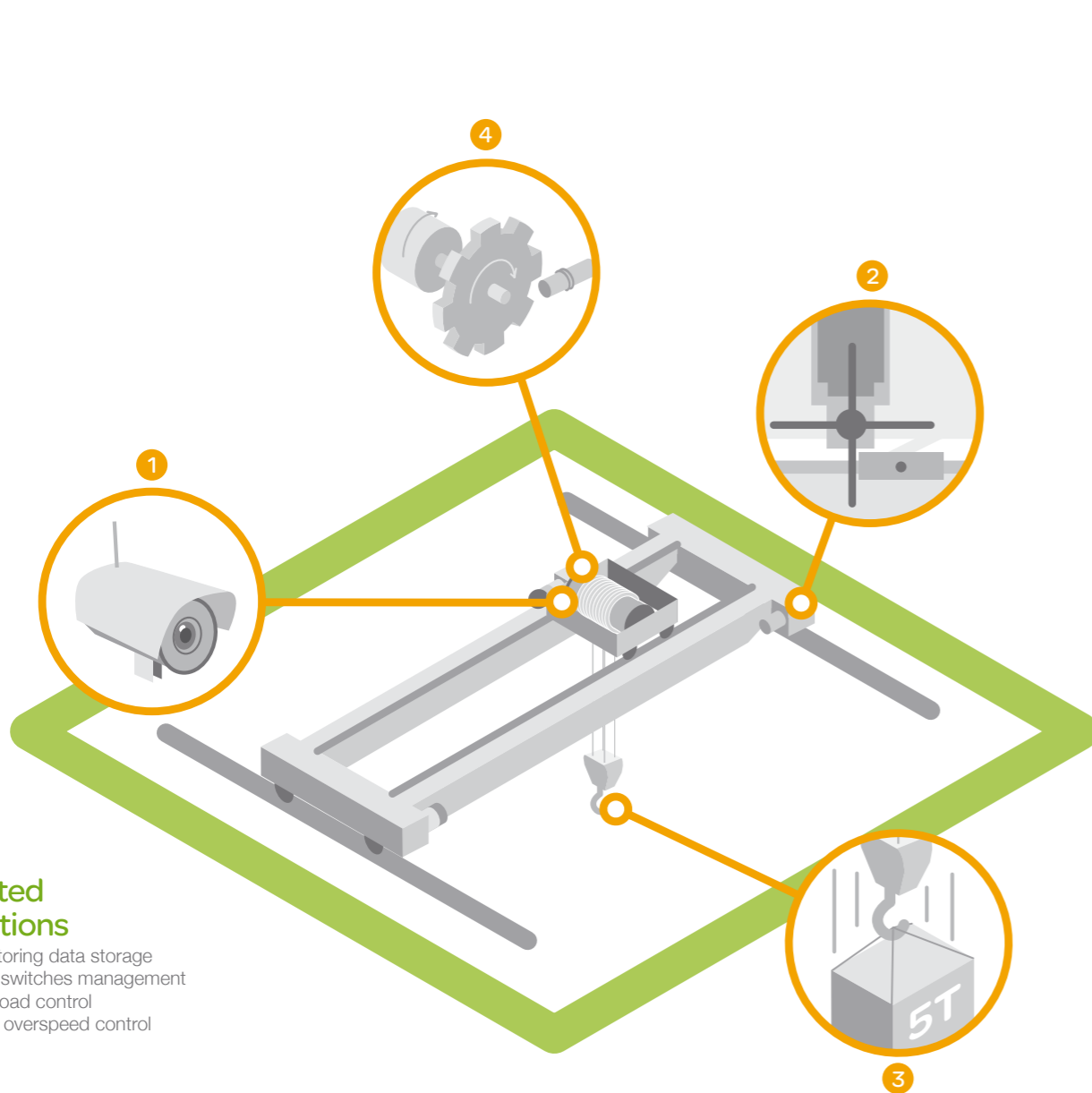
Tested and validated solutions for industrial cranes



- Overhead travelling cranes
- Gantry cranes



- Overhead travelling cranes with cabin
- Gantry cranes with cabin



Related functions

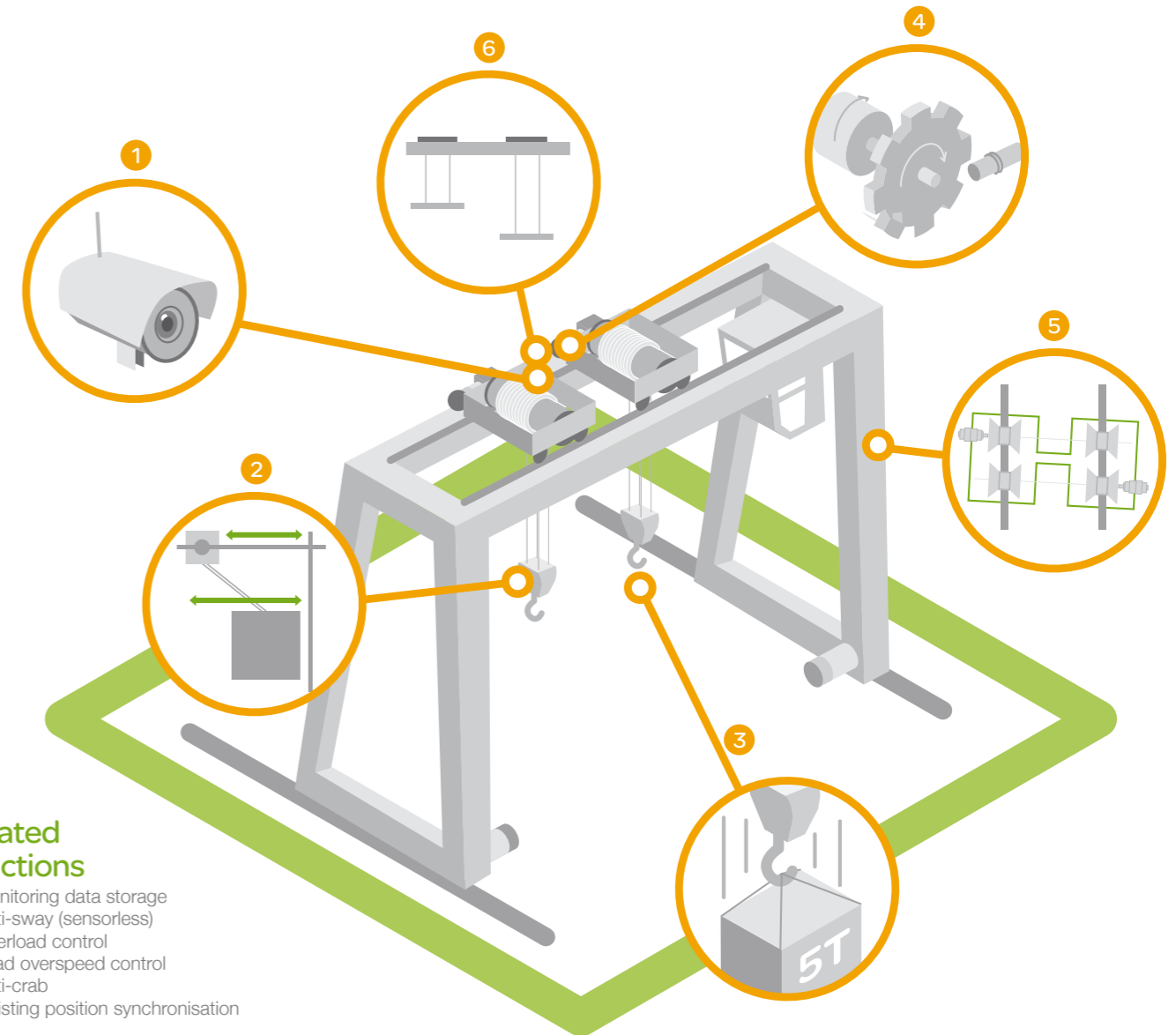
- 1 Monitoring data storage
- 2 Limit switches management
- 3 Overload control
- 4 Load overspeed control

Architectures

Simple hoisting

Compact / Hardwired / Logic controller / Zelio Logic

Make installation and maintenance easy while increasing competitiveness



Related functions

- 1 Monitoring data storage
- 2 Anti-sway (sensorless)
- 3 Overload control
- 4 Load overspeed control
- 5 Anti-crab
- 6 Hoisting position synchronisation

Architectures

Optimized hoisting

Compact / CANopen / Drive controller / ATV-IMC

Maximise system performance whilst optimising automation & control

Optimized hoisting

Distributed / CANopen / Logic controller / M238

Maximise system performance while keeping flexibility & openness

Simple hoisting

Compact / Hardwired / Logic controller / Zelio Logic

Make installation and maintenance easy whilst increasing competitiveness

Dedicated to simple and standard hoisting machines, this is the first step towards automation from traditional relay architectures. High-level expertise is not required thanks to simple and predefined adjustments which allows for quick setup of the smart relay. At the same time, this architecture provides a highly compact and simple installation, thus reducing your commissioning and maintenance times.

Advantages

Optimised costs

This architecture provides a highly competitive performance/cost ratio.

Extended equipment service life

Reduce mechanical shocks and stress on the crane mechanism, motors and structures thanks to variable speed drives on crane movements.

Easy to use

Smart relay setup simplifies and improves your crane control compared to traditional relays.

Simple diagnostic access

Smart relay display integrated to display information, warning or error messages in the event of maintenance issues.

Characteristics

- **Controller:** Zelio Logic Smart Relay.
- **Motor control:** Translation and trolley travelling movement: Altivar ATV312 variable speed drive ; hoisting movement: TeSys direct motor starter.
- **HMI:** Pushbuttons and screen integrated on controller relay to set it up and to inform maintenance operators.
- **Command:** Pendant station.
- **Signalling:** Orange beacon with flash lamp.
- **Safety:** Emergency stop from pendant station.
- **Cabling:** Hard-wired.
- **Software:** Smart relay programmable via built-in user interface or ZelioSoft. Variable speed drive setup via SoMove software.
- **Options:** Altivar ATV71 variable speed drive for hoisting movement.



100 Applications engineers

Optimise machine design by leveraging the collective knowledge of our industry specialists.

Save 50% in design time

Minimise design time and improve system consistency through predefined CAD panel designs & wiring diagrams.

Save installation time

Speed up and be autonomous in installing, programming and commissioning your machinery with a complete system user guide.

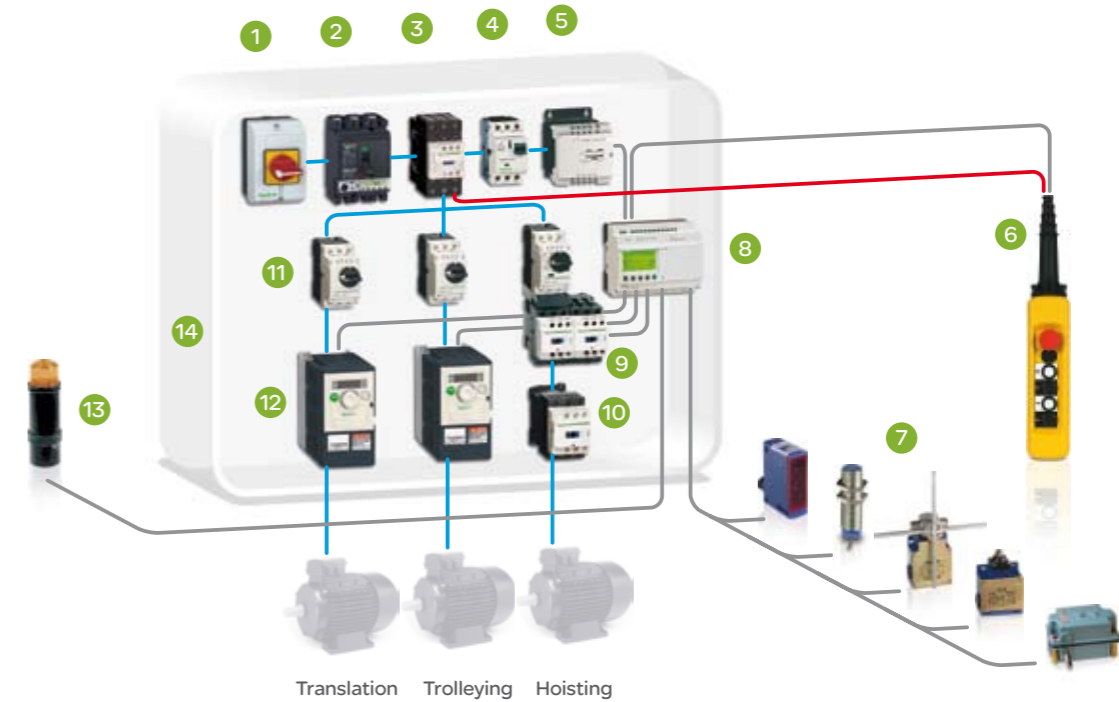
24/7 support

Keep customer machinery in working order wherever they are thanks to our international service organisation.



- Overhead travelling crane
- Gantry crane

Tested and validated solutions for industrial cranes



Functions:



Monitoring data storage



Overload control



Limit switches management



Load overspeed control

Products:

- | | | |
|----|--|-----------------------|
| 1 | Switch disconnecter | TeSys Vario |
| 2 | Circuit breaker | Compact NSX |
| 3 | Contactors | TeSys D |
| 4 | Circuit breaker | TeSys GV2R |
| 5 | Transformer | Phaseo |
| 6 | Pendant station | XAC |
| 7 | Photoelectric sensor, proximity sensor, limit switch, screw selector, OsiSense | |
| 8 | Logic controller | Zelio Logic |
| 9 | Direct motor starter + contactor 2 nd speed | TeSys GV2 + TeSys K/D |
| 10 | Contactors | TeSys K/D |
| 11 | Magnetic circuit breaker | TeSys GV2L |
| 12 | Variable speed drive | Altivar ATV312 |
| 13 | Signalling unit | XVB/C/M... |
| 14 | Enclosure | Spacial S3D |

Optimized hoisting

Compact / CANopen / Drive controller / ATV-IMC

Maximise system performance whilst optimising automation and control

This architecture suits complex installations using accurate hoisting machines that require variable speed drives in all movement (hoisting, trolley and translation). Using devices with the embedded CANopen field bus facilitates installation, thus improving performance and simplicity. At the same time, you can integrate a single Integrated Machine Control (IMC) card on the drive that provides dedicated hoisting functions to increase the productivity of your crane and reduce risks.

Advantages

Compactness

Crane control and safety functions can be included on your drive with a single ATV-IMC drive controller.

Fast commissioning phase

- A single software environment.
- Transparency: access to the CANopen device with FDT/ DTM.
- Pre-defined hoisting library.

Tested, validated and documented

A complete system user guide gives all the details for installing and building your application with confidence.

Simple diagnostic access

Variable speed drive keypad display can be used to show information, warning or error messages in the event of maintenance issues.

Machine openness

- Ethernet Modbus TCP connection embedded
- Web pages in the ATV-IMC drive controller.

Characteristics

• Controller:

ATV 71 + Integrated Machine Control (ATV-IMC).

• Motor control:

Translation and trolley travelling movement: Altivar ATV312 variable speed drive; hoisting Movement: Altivar ATV71 variable speed drive + encoder (closed loop).

• HMI:

Magelis touch screen to inform crane operator. Keypad integrated on Altivar ATV71 to set up drive and controller and to inform maintenance operators.

• Command:

XK controller station joystick.

• Signalling:

Orange beacon with flash lamp.

• Safety:

Emergency stop on cabin.

• Cabling:

Hard-wired (I/O), variable speed drive communication via CANopen.

• Software:

SoMachine for ATV-IMC controller. Variable speed drive.

• Options:

Preventa XPS safety relay module to achieve the category 4 safety / PL e / SIL 3.



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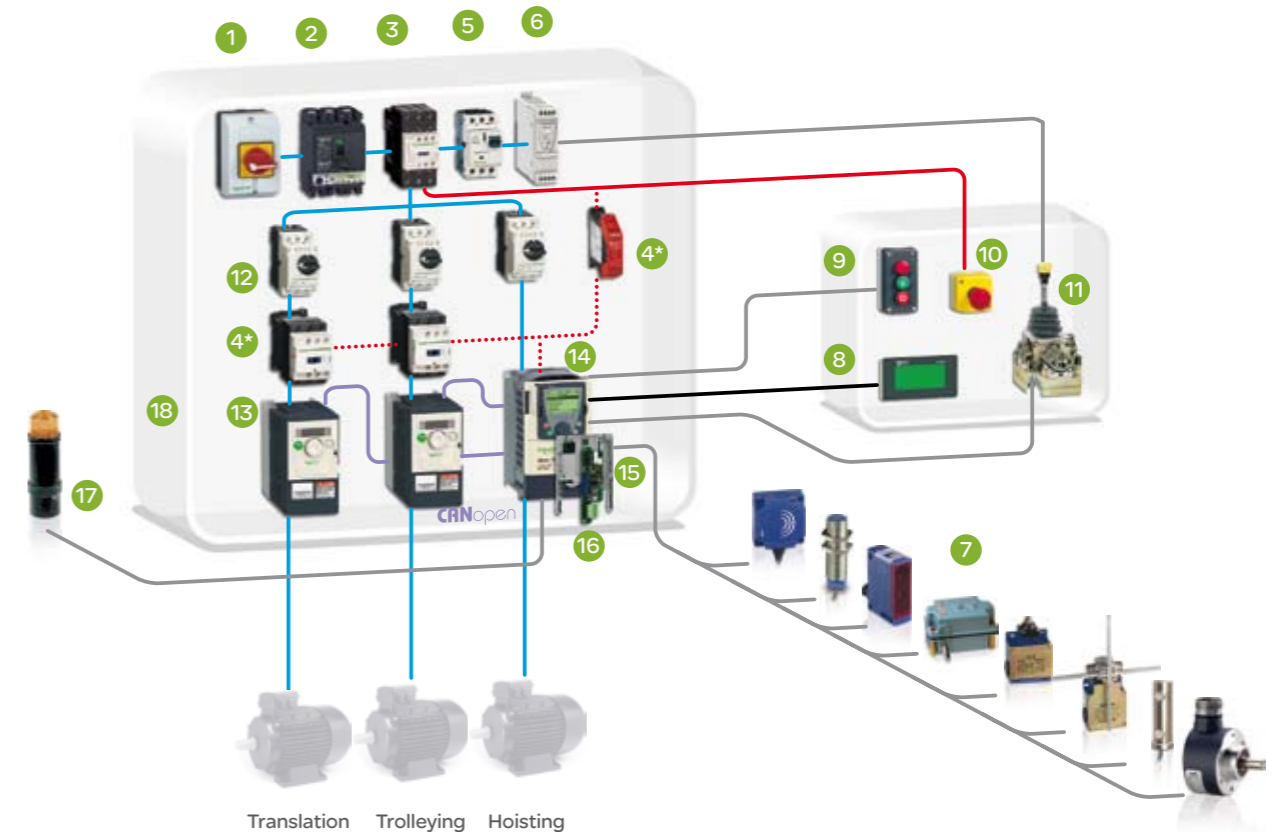
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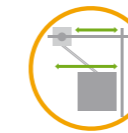
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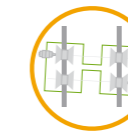
Monitoring data storage



Load overspeed control



Anti-sway



Anti-crab



Overload control



Limit switches management

Products:

1	Switch disconnecter	TeSys Vario
2	Circuit breaker	Compact NSX
3	Contactors	TeSys D
4	Safety module* + contactor*	Preventa XPS + TeSys D
5	Circuit breaker	TeSys GV2R
6	Switch mode power supply	Phaseo
7	Proximity sensor, photoelectric sensor, screw selector, limit switch, encoder	OsiSense load cell ⁽¹⁾
8	Display HMI	Magelis STO, STU
9	Start stop / Buzzer-alarm enclosure	Harmony XALD
10	Emergency stop	Harmony XALK
11	Joystick	XK
12	Circuit breaker	TeSys GV2L
13	Variable speed drive	Altivar ATV312
14	Variable speed drive	Altivar ATV71
15	Motion controller	Integrated Machine Control ATV-IMC
16	Encoder interface card	VW
17	Signalling unit	Harmony XVB/C/M...
18	Enclosure	Spacial S3D

⁽¹⁾ Partner offers
*Optional / recommended

Optimized hoisting

Distributed / CANopen / Logic controller / M238

Maximise system performance whilst keeping flexibility and openness

This architecture is adapted to complex crane equipment manufacturers with high-level specialised know-how. It provides an innovative solution for large cranes and special installations that require high flexibility and modularity to ease adaptations for customization burden requirements for your machines. It combines controller and variable speed drives with an embedded CANopen field bus and distributed I/O devices that give you maximum flexibility and help you to simplify your installation. At the same time, the SoMachine controller provides dedicated hoisting functions to increase the productivity of your crane and reduce risks.

Advantages

Flexibility

High level of adaptability and modularity with M238 extension modules and the CANopen openness.

Fast commissioning phase

- A single software environment.
- Transparency: access to the CANopen device with FDT/ DTM.
- Pre-defined hoisting library.

Tested, validated and documented

A complete system user guide gives all the details for installing and building your application with confidence.

Characteristics

- **Controller:** Controller M238.
- **Motor control:** Translation and trolley travelling movement: Altivar ATV312 variable speed drive; hoisting Movement: Altivar ATV71 variable speed drive + encoder (closed loop).
- **HMI:** Magelis touch screen to inform crane operator. Keypad integrated on Altivar ATV71 to set up drive and controller and to inform maintenance operators.
- **Command:** XK controller station joystick.
- **Signalling:** Orange beacon with flash lamp.
- **Safety:** Emergency stop on cabin.
- **Cabling:** Hard-wired (I/O), controller & variable speed drive communication via CANopen.
- **Software:** SoMachine for M238 controller. Variable speed drive.
- **Options:** Preventa XPS safety relay module to achieve the category 4 safety / PL e / SIL 3.



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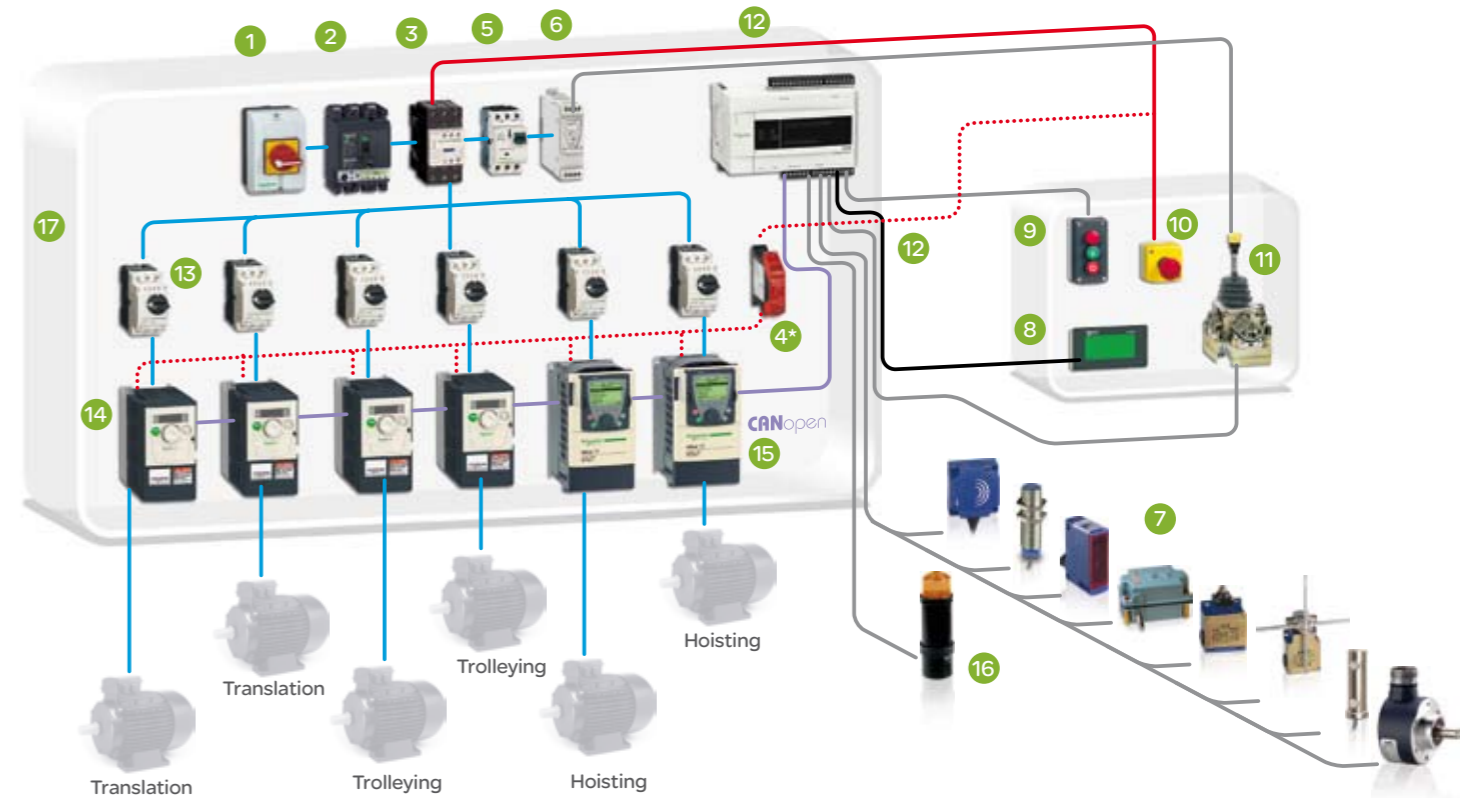
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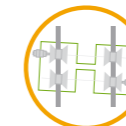
Monitoring data storage



Load overspeed control



Anti-sway



Anti-crab



Overload control



Trolley synchronization

Products:

1	Switch disconnect	TeSys Vario
2	Circuit breaker	Compact NSX
3	General contactor	TeSys D
4	Safety module*	Preventa XPS
5	Circuit breaker	TeSys GV2R
6	Switch mode power supply	Phaseo
7	Proximity sensor, photoelectric sensor, screw selector, limit switch, encoder	OsiSense load cell (1)
8	Display HMI	Magelis STO, STU
9	Start stop / Buzzer-alarm enclosure	Harmony XALD
10	Emergency stop	Harmony XALK
11	Joystick	XK
12	Logic Controller	Modicon M238
13	Circuit breaker	TeSys GV2L
14	Variable speed drive	Altivar ATV312
15	Variable Speed Drive	Altivar ATV71
16	Signalling unit	Harmony XVB/C/M...
17	Enclosure	Spacial S3D

(1) Partner offers

*Optional / recommended



Why our solutions?

Our new MachineStruxure™ solution is designed to help you achieve faster, lower risk, and more energy-efficient and cost-effective designs and installations through the use of proven and innovative architectures that shorten time to market. MachineStruxure incorporates flexible and scalable hardware platforms and a comprehensive software suite with application function libraries.

Increase machine performance & innovation

- Focusing on new machine challenges, speed up machine concept to design and open up new markets with our industry experts.
- Adapting to your precise needs using the broadest best in class product offer, pre-defined machine architectures and application function blocks.

Reduce total cost of ownership

- Reducing risk in selling machines throughout the world using our international offers, experience and presence
- Minimising training and maintenance costs worldwide with International After-Sales Support.

Shorten time to market

- Save up to 50% in control system design and installation time with **tested, validated & documented** architectures, ready to use function blocks, predefined CAD panel designs & wiring diagrams.
- Saving installation time with fully documented system user guides.
- Selecting the most optimised control solution to meet your machine requirements with our **Flexible and Scalable Machine Control platform:**
 - Choose the appropriate controller with embedded intelligence in drives, HMI displays, motion & logic control products
 - Simplify and speed up control system programming and commissioning with an easy to use, single software environment, providing one tool, one connection, one project file and one download in complete openness and transparency

Technical leaflet



Make the most of your energy



Your partner in hoisting

Schneider Electric Industries SAS

Head Office
35, rue Joseph Monier – CS 30323
F92506 Rueil-Malmaison Cedex
FRANCE

www.schneider-electric.com

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