Vestamatic + wieland

SMI 3.0 MOTORS, CONTROL UNITS AND WIRING

Products become intelligent solutions
- Wieland and Vestamatic show how

Sun protection systems in practice

The cabling for sun protection has been characterized by applied standards for many years. Figure 1 shows wiring with conventional motor controls to which, for example, four commercially available 230 V drives are connected. The red line indicates the 230 V power supply. The actuators are wired in parallel and allow central, decentralized and individual operation. A connection to Smart Building and building control technology is possible without any problems - from simple to complex.

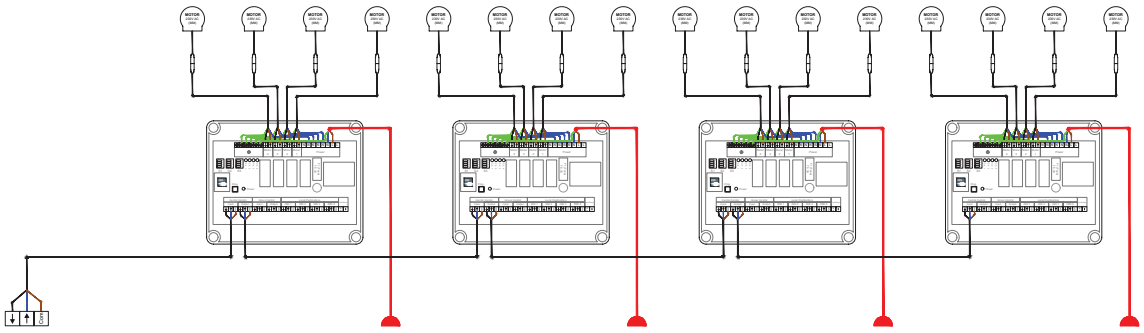


Figure 1: Conventional drives and motor controls

Figure 2 shows a solution with radio motors, where each motor is constantly supplied with 230 V. Group and individual commands can then be sent from one or more transmitters. A connection to Smart Building and building control technology is possible to a limited extent, since proprietary radio systems are often used

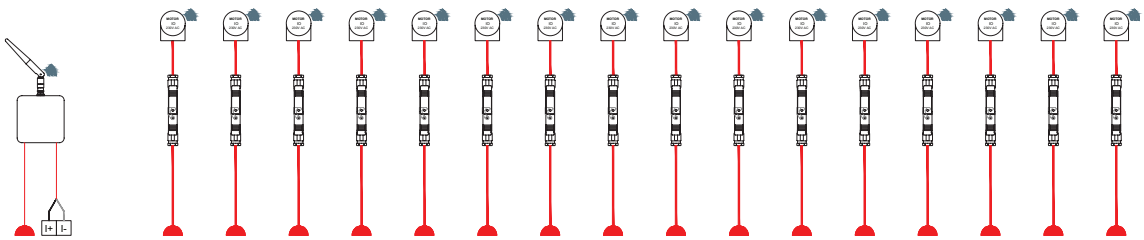


Figure 2: Radio drives

SMI
- a 5-pin BUS

Standard Motor Interface (SMI) is a universal 5-pin bus system that has been the standard for sun protection systems across all manufacturers since 2001. The driver of the standard was and is the interoperability between motor and controller. The products have been running under an updated SMI 3.0 standard since 2023.
One of the core elements is shown in Figure 3. Up to 16 drives can be connected in parallel and remain individually addressable. They are automated as a line via a controller or integrated into a comprehensive smart building.

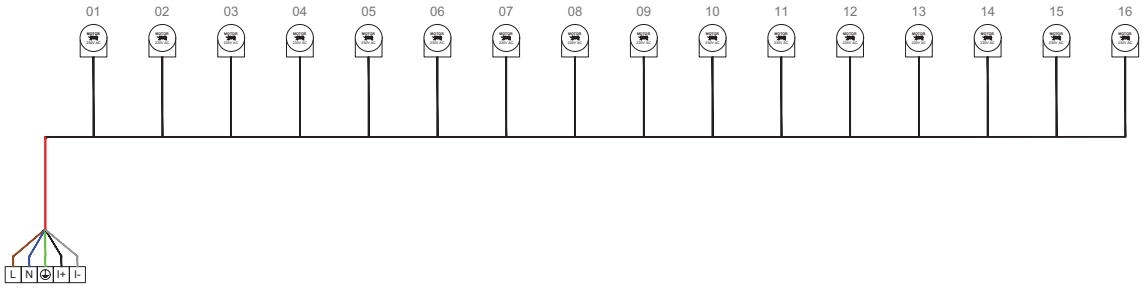


Figure 3: SMI drives

A connection to Smart Building and building control technology is possible without any problems - from simple to complex.
Here, too, the installation is often carried out by the sun protection contract installer and the electrical connection by an electrician.
Responsibility for the T-connections between the motors, the cable specification, “learning” the serial numbers of the motors for the controller and parameterizing the controller is challenging. To put it simply - this is the driver for the close cooperation between a manufacturer of connector systems and a manufacturer of controls, sensors and motors.

SMI 3.0 solutions - faster, more secure and more cost-effective

Experiences from more than 100,000 installed SMI drives in projects worldwide have been compiled to create holistic solutions from established products. In this way, uniform planning parameters were created from the three elements; sun protection (motor), cabling and control. These are shown in Figure 4.

Figure 4: SMI elements

Together, we created solutions that mean a high level of planning security and reduced risks for architects, planners, general contractors and builders. Especially in the prefab area - for wall modules, fixed room grid dimensions and entire buildings - there is a fundamental advantage here.

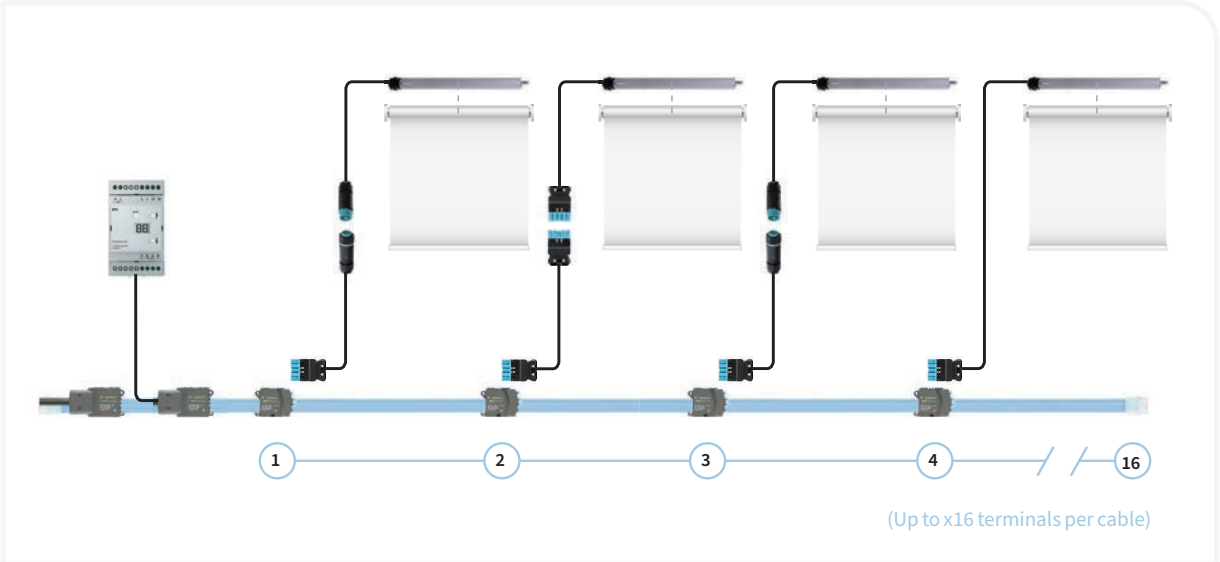
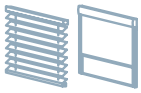


Figure 5: SMI automation solutions from Wieland + Vestamatic

Figure 5 shows an installation using the example of sixteen 230 V SMI 3.0 tubular drives, which are wired together via a BUSbar and are supplied and controlled centrally from one location.

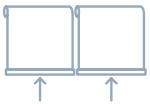
SMI 3.0 Benefits

When in discussions with architects, planners, investors and general contractors, the main focus is of course on the advantages of SMI 3.0 compared to conventional solutions.



All types of shading
SMI interface for interior and exterior motorized blinds.

Digitally addressable
Individual drive feedback.



Precise Alignment
commands for exact movement and intermediate positions.

Plug and play
Simplified installation with pre-made components.

Status Feedback
shading position, motor condition, upper and lower limits, error messages.

Individual control
Motors controlled independently of wiring configuration.

Time Saving
up to 70% time saved on site with pluggable wiring.

Parallel connection
Up to 16 motors in parallel connection.

SMI installations can help to make today's buildings energy-efficient in a resource saving manner as part of renovations. New buildings can already benefit from the use of significantly fewer cables and significantly reduced construction times, during the planning phase. We have summarized the advantages of an SMI solution in Figure 6:

Using 16 Motors	SMI 3.0 Motors	Conventional Motors
Cable length (m)	**84**	184
Connections (quantity)	**48**	92
Connections/poles (quantity)	**240**	352
Controllers/connectors (quantity)	**16**	20
Installation risks (quantity)	**304**	464

Figure 6: Advantages of SMI solutions from Wieland + Vestamatic

Tip: SMI is not a sure-fire success either! Here too, optimal solutions can only be achieved on an interdisciplinary basis. If projects do not fully exploit the potential of SMI, this is usually due to insufficient coordination between the trades and unclear expectations, not the technology. SMI is a technically and commercially improved solution to conventional installations. Energy efficiency in operation only works in close cooperation with the other trades and an open connection to building systems using KNX, BACNET, Modbus and whichever standards will come our way in the future.

Selected SMI project experiences

Decision Support with:

Early planning of cabling and power supply

Safe T-connections with parallel wiring of SMI motors

Ready-made plug-in cables between Motor and BUS bar

Reduced electrical installation work on the construction site

Continuous power supply to all motors

Easy replacement of defective systems

Internal Installation

New Office Düsseldorf

Reuther Fenstergestaltung:
Roller blind systems
Wieland:
gesis® NRG BUSbar
Vestamatic:
VL-SMI motors and controllers

NOD is currently the largest office development in Düsseldorf with six floors and 35,000 m^2 of floor space and has received gold certification from the DGNB for its sustainability and environmental compatibility. The intelligent shading solution provided for the NOD features high quality internal blinds. These are supplied by Vestamatic digital SMI motors via Wieland gesis® BUSbar flat cables, which provide both the energy and data supply and at the same time enable bidirectional feedback for the building manager. The roller blind systems are also controlled during the day via a central automation system, whereby individual operation is still available for users.

External Installation

Art & History Museum, Brussels

Helioscreen/Guthrie Douglas:
Fabric tension blinds
Wieland:
gesis® NRG BUSbar
Vestamatic:
VL-SMI Motors and Controls

Large, fabric-covered blinds have been installed on atrium glass panels overlooking the gallery spaces in one of Europe's largest art museums. The blinds are driven by Vestamatic Digital SMI motors, which are connected to Wieland gesis® BUSbar flat cables for power and data supply and Wieland connectors. Operated automatically by a central building control system, the blinds provide much-needed protection for artworks from direct sunlight and potentially harmful UV rays.

Vestamatic

wieland

Vestamatic GmbH
Am Tannenbaum 2
D-41066 Mönchengladbach
Deutschland Germany

Phone: +49 2161 29 408-0
Fax: +49 2161 29 408-20

info@vestamatic.com

HEADQUARTERS

Wieland Electric GmbH
Brennerstraße 10 – 14
96052 Bamberg . Germany

Phone +49 951 9324-0
Fax +49 951 9324-198
info@wieland-electric.com

vestamatic.com

www.**wieland**-electric.com