

# SCW100 – SMART CONNECTION

Efficient integration, total management and fast assembly



Motors | Automation | Energy | Transmission & Distribution | Coatings



MPW40

MPW40

MPW40

TRIP

TRIP

TRIP

OFF

OFF

OFF

2

5 L3

3 NO

21

A1+

1 L1

3 2

5 L3

13 NO

21

A1+

CWB38

1 L1

3 2

5 L3

13 NO

21 N

A1+

CWB38

1 L1

3

13 NO

2

CWB38

4 T2

6 T3

4 T2

6 T3

4 T2

6 T3

# Smart Connection SCW100

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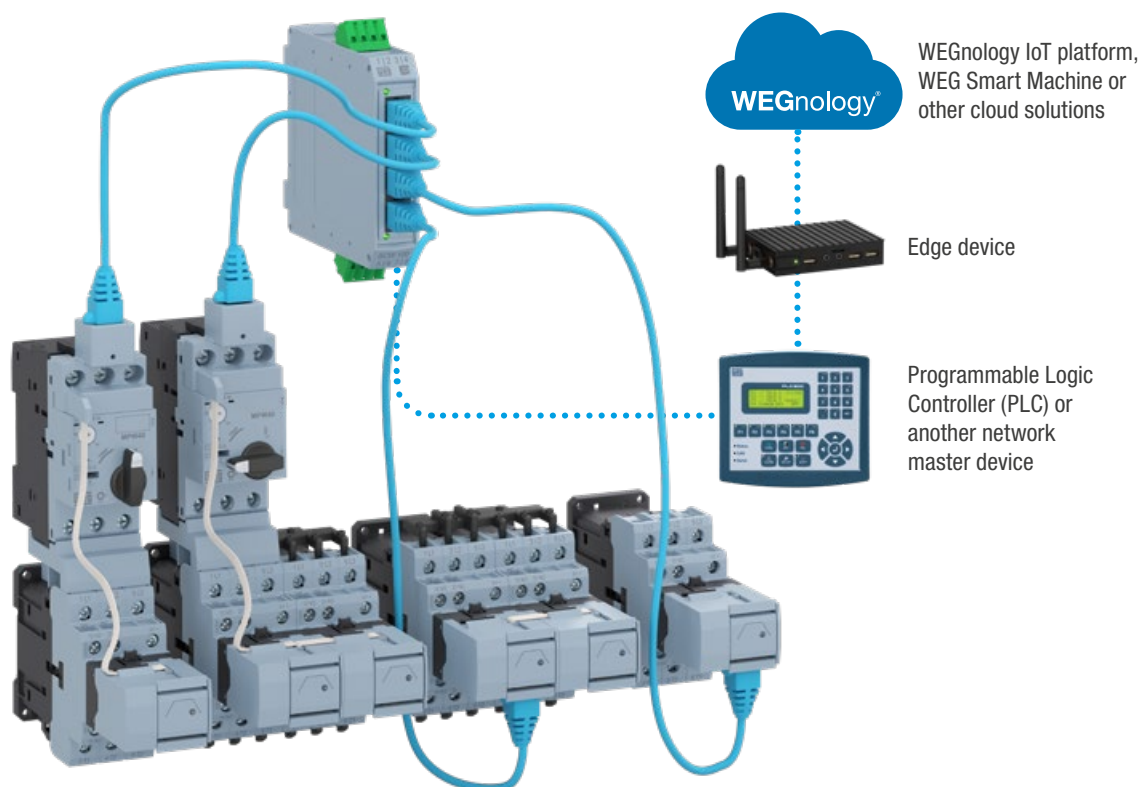


# Efficient integration, total management and fast assembly

Seeking the necessary integration for Industry 4.0, WEG developed the Smart Connection accessory line, which allows full control and supervision of motor starter systems, simplifying the way to drive machines and collect data on their operation status.

The Smart Connection SCW100 line is a component system intended to integrate motor starters and the logic controller device (network master). In addition to facilitating integration, it provides significant gains in the process, such as fast and simple assembly of control circuits for motor starters, which makes the management of starters much more reliable.

## Motor Starter System with Smart Connection



Note: digital solutions are not part of the scope of supply for the SCW100. To learn more, visit [weg.net/digitalsolutions](http://weg.net/digitalsolutions).



Combined with CWB contactors, MPW motor-protective circuit breakers and the Easy Connection system for power circuits, the SCW100 Smart Connection line allows the assembly of circuits saving time and space, reducing labor costs and resulting in much more compact and aesthetically cleaner panels.

The line is compatible with several WEG products already recognized in the market for quality, durability and innovation:



MPW40 motor-protective circuit breakers



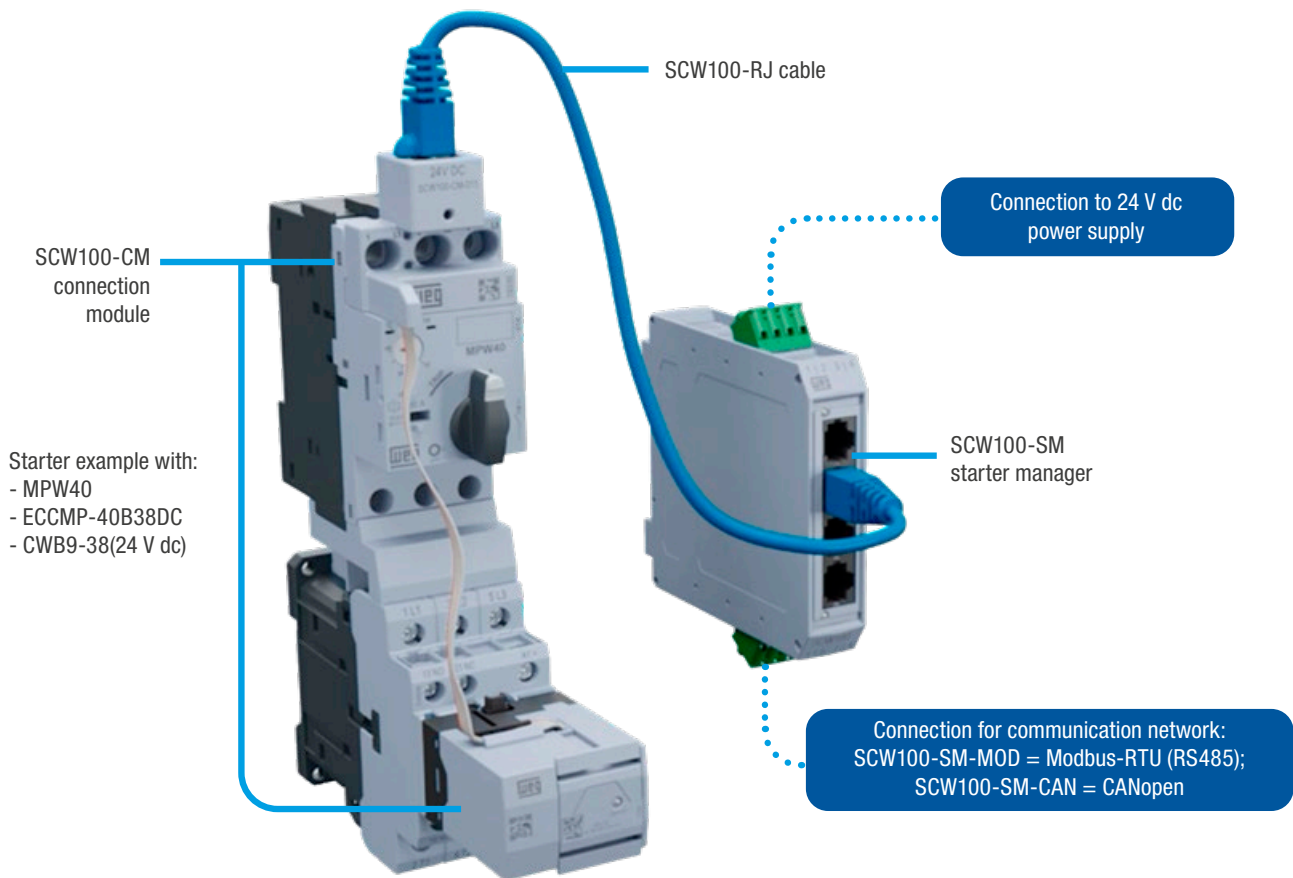
9 A to 38 A CWB contactors with 24 V dc coil



Programmable Logic Controllers (PLCs) with Modbus-RTU network communication

For those who use programmable logic controllers (PLCs) or another device with control logic and wish to turn their conventional WEG drives into smart starters, the Smart Connection line is the ideal solution for automation, providing excellent cost effectiveness.

## Assembly Example



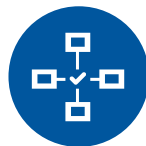
## Lower Cost with Greater Benefits



Full integration between the control device and motor starters



Total management of motor starters



Compatible with the vast majority of PLCs available on the market



Ready for Industry 4.0



Maximum system reliability



Simplified assembly solutions



Faster assembly of electrical panels



Labor savings



Wiring/cable savings



Promotes the assembly of more compact and much cleaner looking panels



Full compatibility with standard WEG components



Allows updating systems at plants already installed

## Starter Manager



The Starter Manager is a device that makes the interface between the motor starters and the general control device (master of the communication network). Each SCW100-SM-MOD Starter Manager unit can control up to 4 motor starters simultaneously, guaranteeing the contactor activation and status monitoring of all the relevant components (contactors and motor-protective circuit breakers). This module processes information and transmits the operating conditions and occasional faults in the starter systems to the master control device.

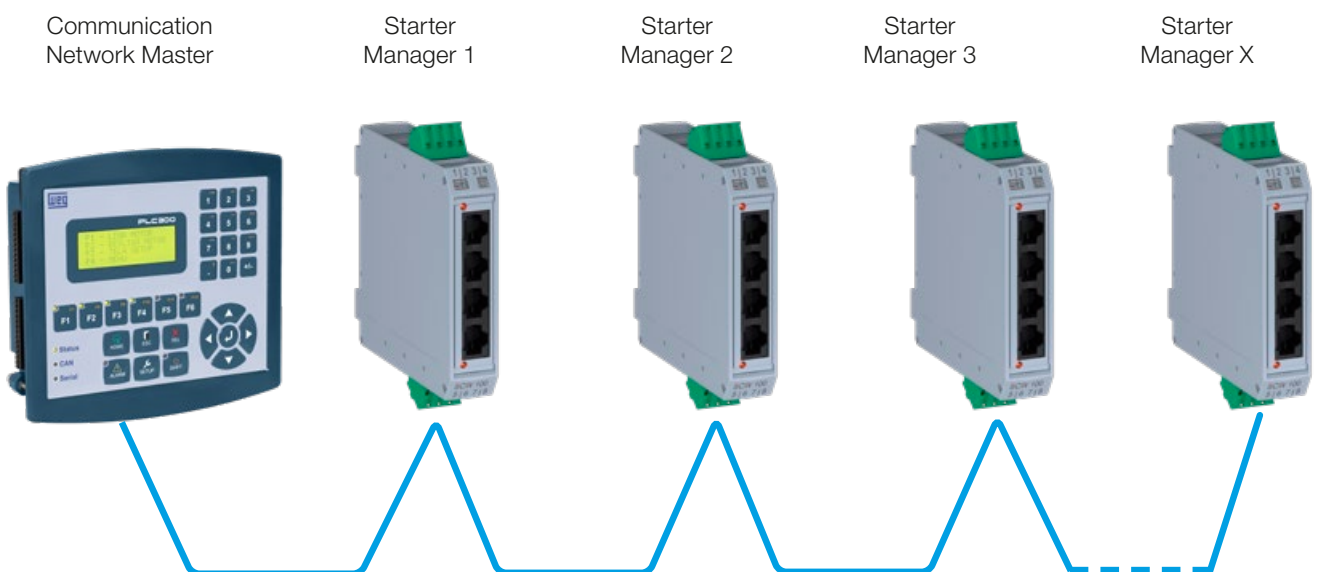
Its factory settings enable much simpler programming logic, since all the analysis on the system driven and monitored by the Starter Manager is contained in the product itself. This is due to the default internal logic that analyzes the status of the motor-protective circuit breaker (activated/tripped) and exercises full control over the contactor (on/off function, counting of operations, monitoring of stuck contacts, activation time, coil integrity).

In addition to the “motor starter” configuration mode, which has specific logic, each Starter Manager port can be individually configured for “clear” mode, offering total freedom for programming the product digital inputs and outputs, thus allowing its use as I/O expansion.

The network master receives all information already processed by the Starter Manager. Thus, the master controller simply accesses the memory addresses of the Starter Manager via the communication network to control the drives and reads the information on the status of the components (feedback).

The Starters Managers can be connected and supervised by WEG PLC300 and TPW04 PLCs or any other PLC or device that can be configured as network master, such as the CFW11, CFW500, CFW300 and CFW100 frequency inverters<sup>1)</sup>. Your programation uses the free WPS software application, available for download on [www.weg.net](http://www.weg.net).

The communication network standard employed allows the connection of up to 31 management modules, enabling the control of up to 124 direct online or reversing motor starters.



Note: 1) Some devices may need an accessory to communicate over a network. Devices from other manufacturers that have this type of communication network available can also be used.

# Starter Manager

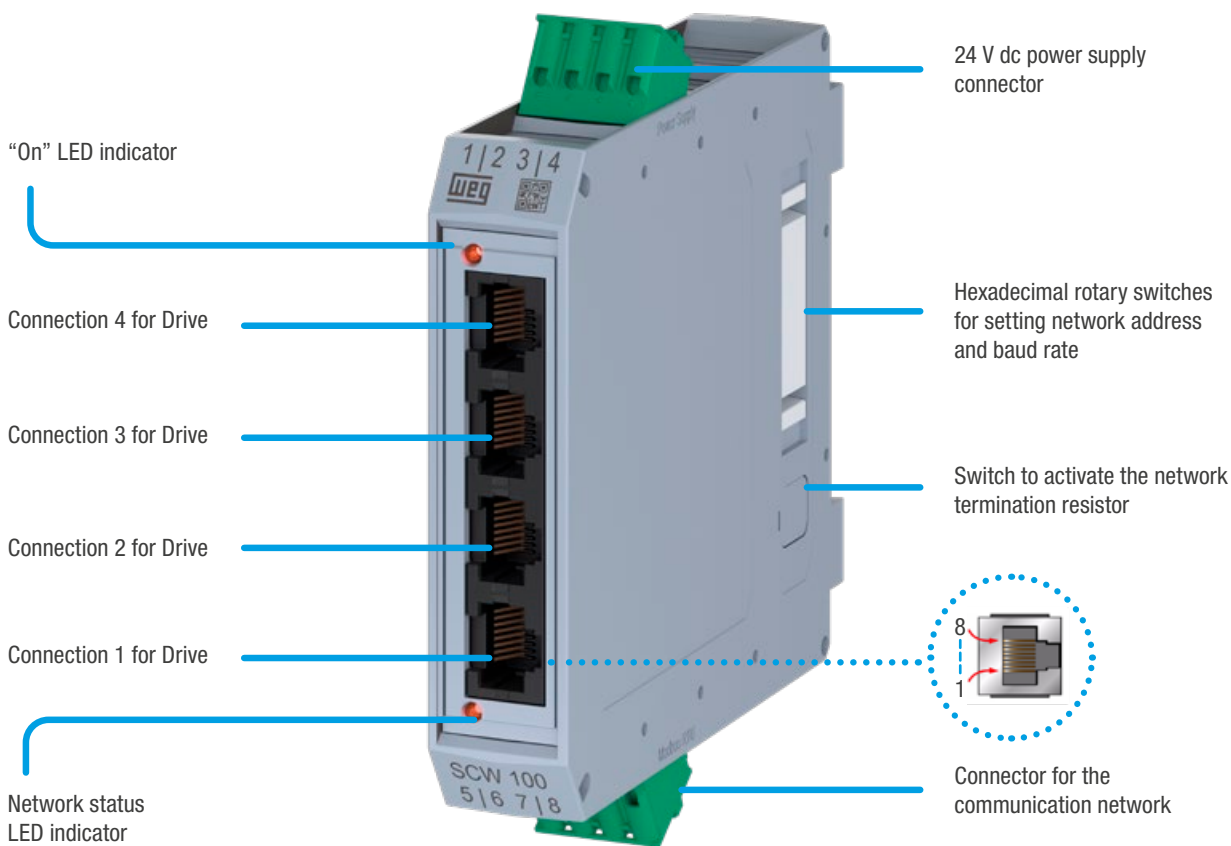
## Assembly Example

The connectors used in the Starter Manager are push-in type. These connectors do not require tools, making the connection of the power cables (24 V dc) and communication network cables much easier, simplifying the installation of the device.

The 24 V dc voltage supply makes the Starter Manager compatible with the vast majority of power supplies on the market. As it contains modern electronic circuits, it consumes very little energy, and the power drained from the source is basically used to supply energy to the contactors that it controls.



## Physical Characteristics



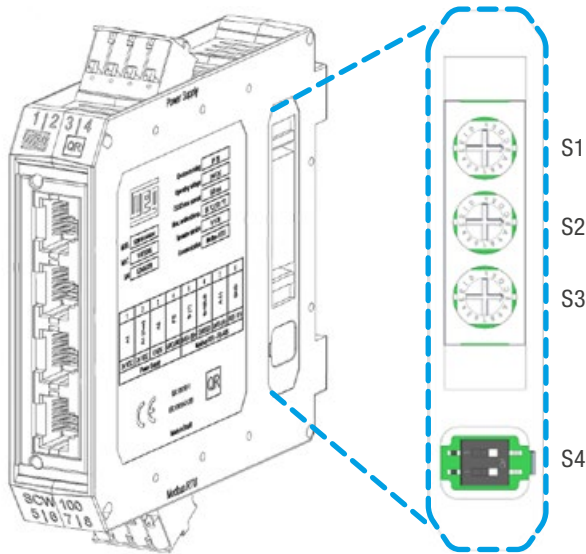
## Selection Table

Reference	Description	Function / Application	Code
SCW100-SM-MOD	Starter manager with Modbus-RTU communication (RS485)	Management of up to 4 starters and communication with the PLC	14979005
SCW100-SM-CAN	Starter manager with CANopen communication	Management of up to 4 starters and communication with the PLC	15936198



# Starter Manager

## Settings and Connections



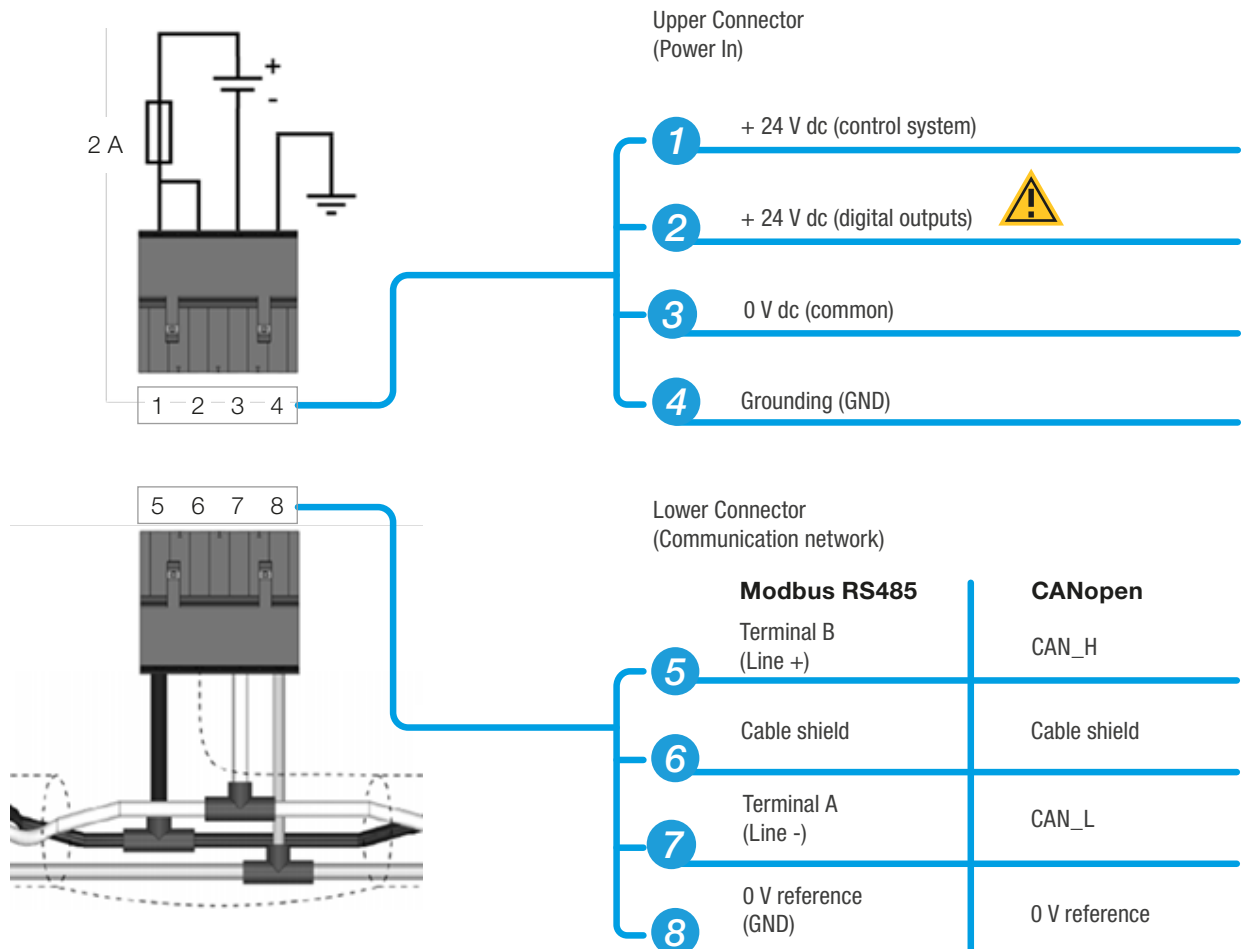
### Hexadecimal Rotary Switches

- S1 – Network address LSB (Least Significant Byte)
- S2 – Network address MSB (Most Significant Byte)
- S3 – Baud Rate, Stop Bits and Parity

### On/Off Switches

- S4 – Activation of the network termination resistor (it must be activated on the last device connected to the communication network)

Note: for further information, refer to the Product Manual.

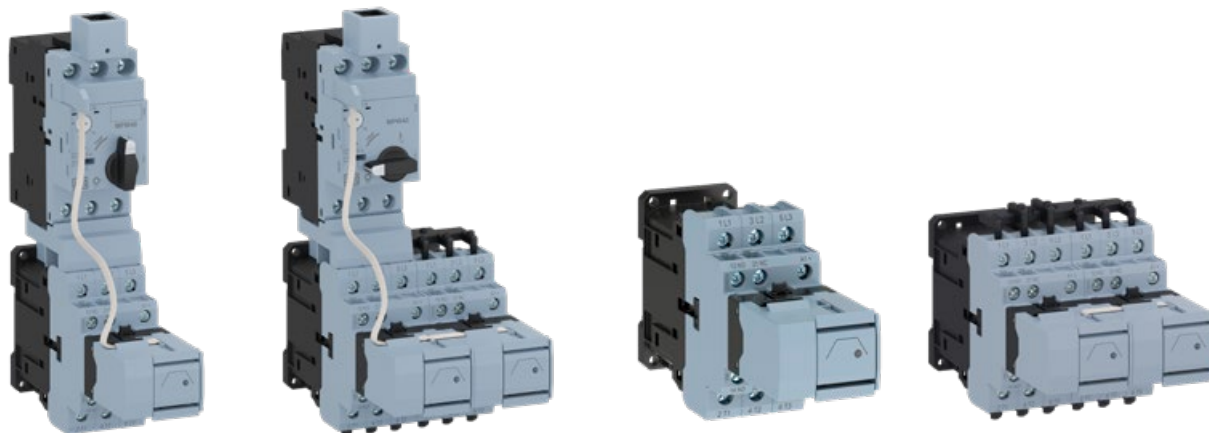


### ATTENTION!

It is recommended that the 24 V dc power supply for the digital outputs (pin 2 of the power connector) pass through the machine/equipment's safety circuit so that, in emergency situations, you have the certainty that the loads activated by the Starter Manager will be turned off through function redundancy.

## Connection Modules

The SCW100-CM Connection Modules were developed based on the principle of easy and quick fitting, eliminating the need for tools to tighten screws and not interfering on the power circuits. They are available in four versions:



Direct online starter with protection

Reversing starter with protection

Direct online starter without protection

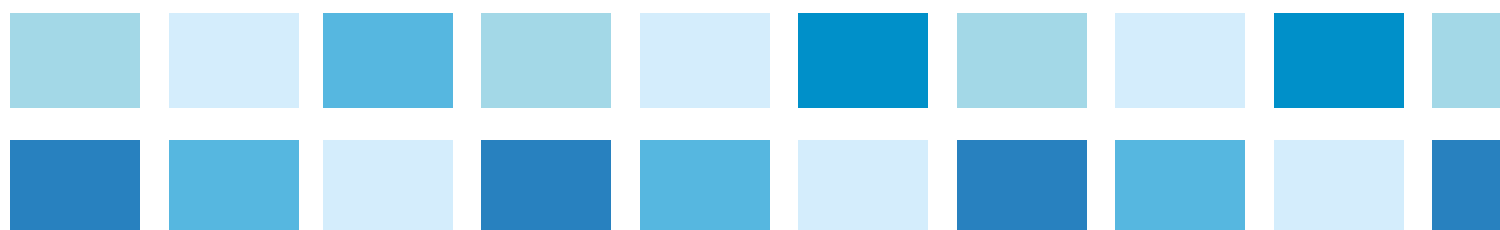
Reversing starter without protection

Applicable to standard WEG products, the SCW100-CM Connection Modules are available for use in conjunction with CWB contactors up to 38 A (coil at 24 V dc) and MPW40 motor-protective circuit breakers. As no special contactors or circuit breakers (dedicated to the Smart Connection system) are required, the Connection Modules can also be implemented in older systems already installed, upgrading conventional panels to Smart solutions.

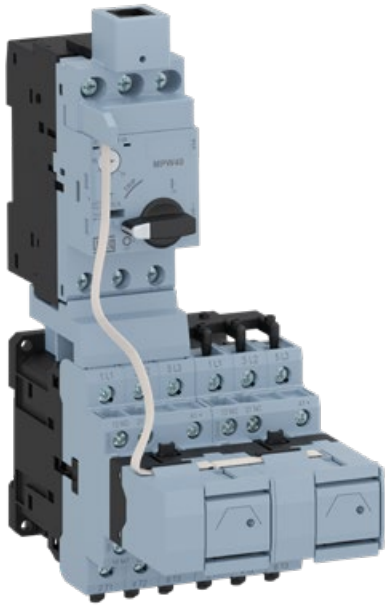
The SCW100-CM Connection Modules have technology that guarantees extremely reliable digital signals to activate and diagnose status of the starter components.

### Selection Table

Reference	Description	Function / Application	Code
SCW100-CM-011	MConnection module for direct online starter with 1 motor-protective circuit breaker and 1 contactor	Connection module for MPW40 + 1xCWB (9-38)	14979091
SCW100-CM-012	Connection module for reversing starter with 1 motor-protective circuit breaker and 2 contactors	Connection module for MPW40 + 2xCWB (9-38)	14979097
SCW100-CM-001	Connection module for direct online starter with 1 contactor	Connection module for 1xCWB (9-38)	14979096
SCW100-CM-002	Connection module for reversing starter with 2 contactors	Connection module for 2xCWB (9-38)	14979094



## Connection Modules



**SCW100-CM-012**

For reversing starters with MPW40 motor-protective circuit breakers + 2 CWB 9-38 A contactors with 24 V dc coils (C03)



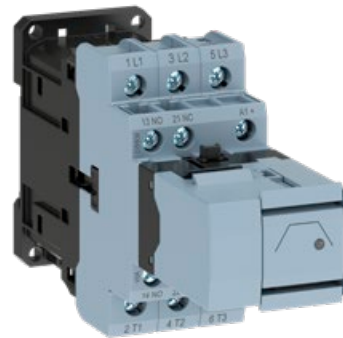
**SCW100-CM-011**

For direct online starters with MPW40 motor-protective circuit breaker + 1 CWB 9-38 A contactor with 24 V dc coil (C03)



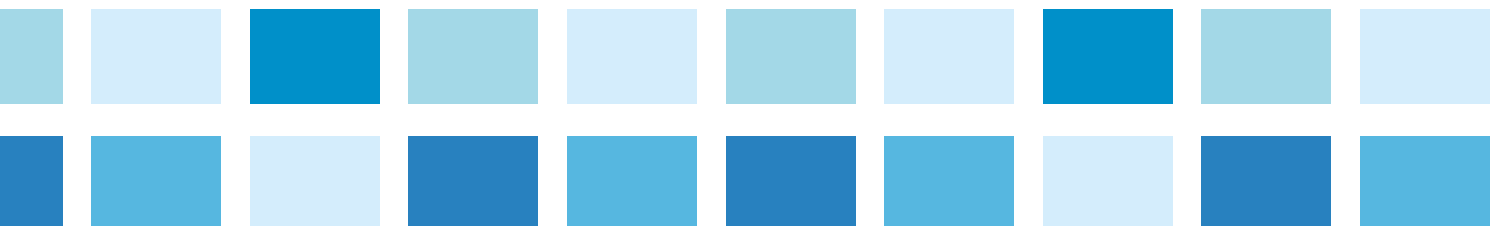
**SCW100-CM-002**

For reversing starters with 2 CWB 9-38 A contactors with 24 V dc coils (C03)



**SCW100-CM-001**

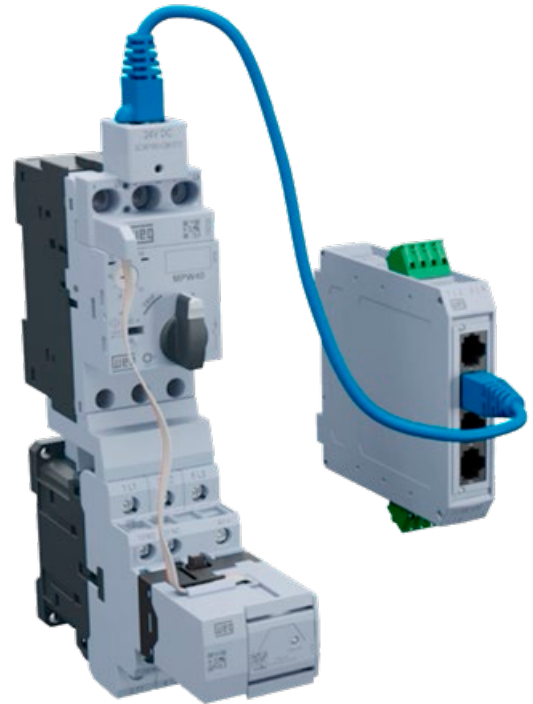
For direct online starters with 1 CWB 9-38 A contactor with 24 V dc coil (C03)



## Cabling

The low power consumption of the CWB contactor line, combined with the extra low voltage used in the control circuits (24 V dc), allows replacing the entire control circuit wiring of a conventional starter with a single RJ45 cable, providing faster connection and eliminating the need for tools. They also have a special feature that makes the connection error-proof, connecting the Starter Manager to the Connection Modules in a fast and simple way.

Through the RJ45 cable, the Connection Module receives the signal necessary to drive (supply) the contactors, returning to the Starter Manager, fast and stably, the status signals of the components involved in the motor start. As the SCW100-RJ cables replace numerous other cables (compared to a conventional assembly), the electrical panel ends up with a clean look, without excess or tangled wires. These interconnection cables for the Smart Connection system are offered in two lengths: 1 or 2 meters.



### Selection Table

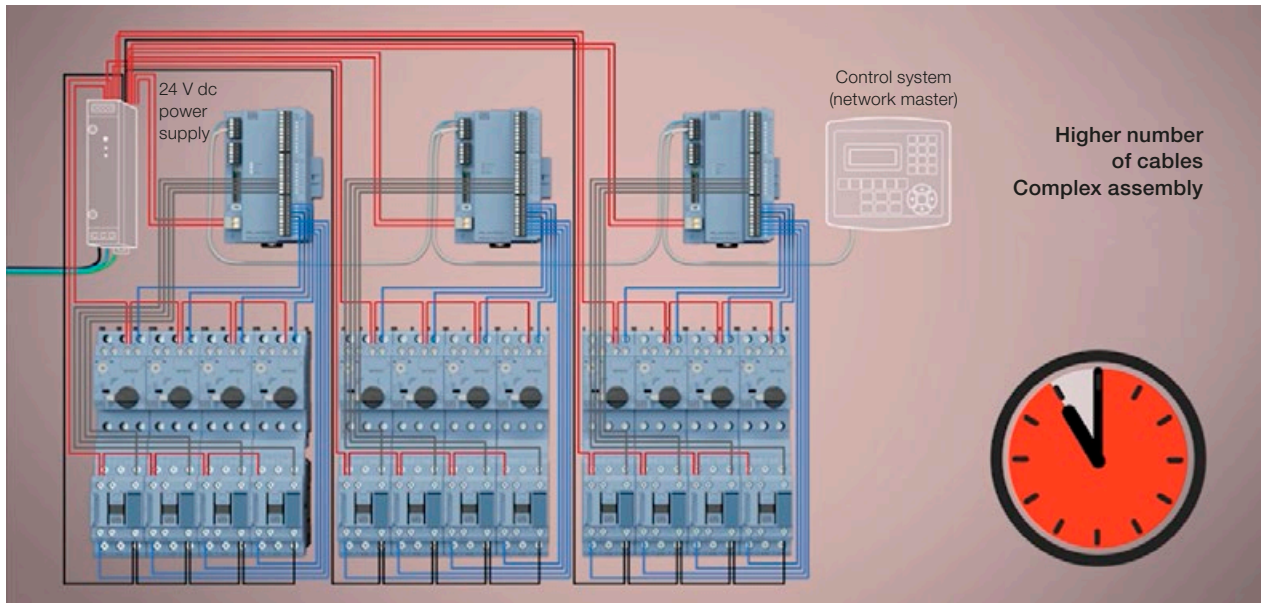
Reference	Description	Function / Application	Code
SCW100-RJ-010	RJ45 cable - 1.0 m	Cables for quick connection between the motor starter and the Starter Manager	15236626
SCW100-RJ-020	RJ45 cable - 2.0 m		15236627



## Comparison between Installations

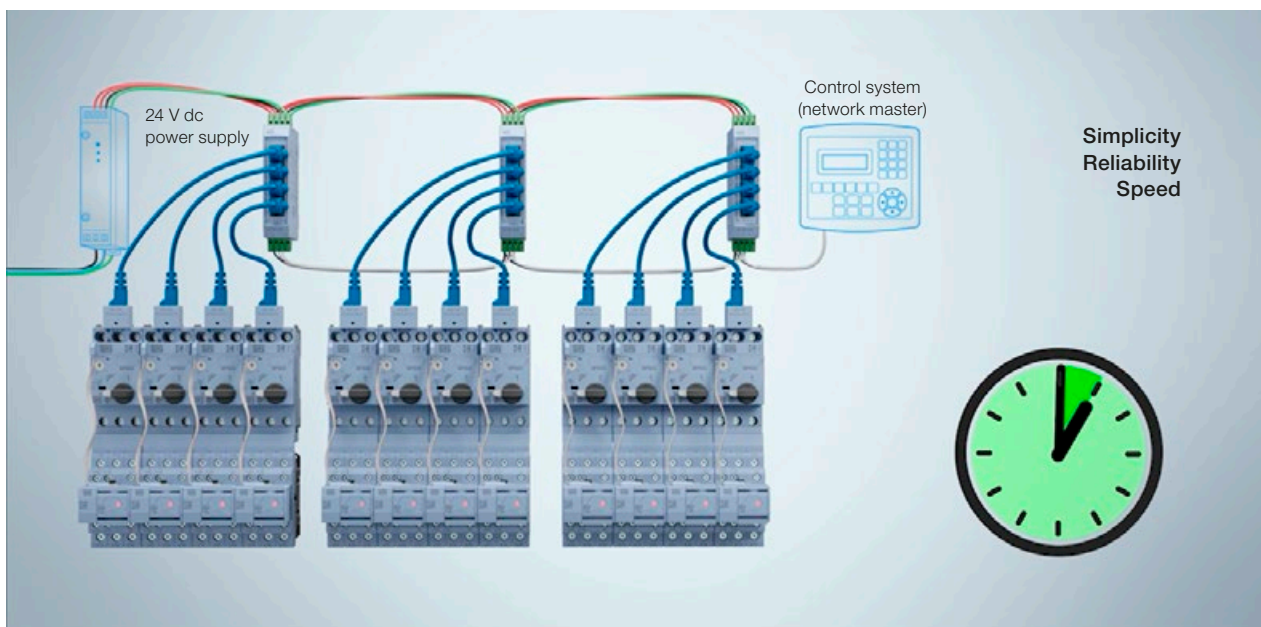
### Conventional Assembly

Complex assembly, with too many cables and difficult identification.



### Smart Connection Assembly

Simple assembly, fast cabling and highly reliable connection.

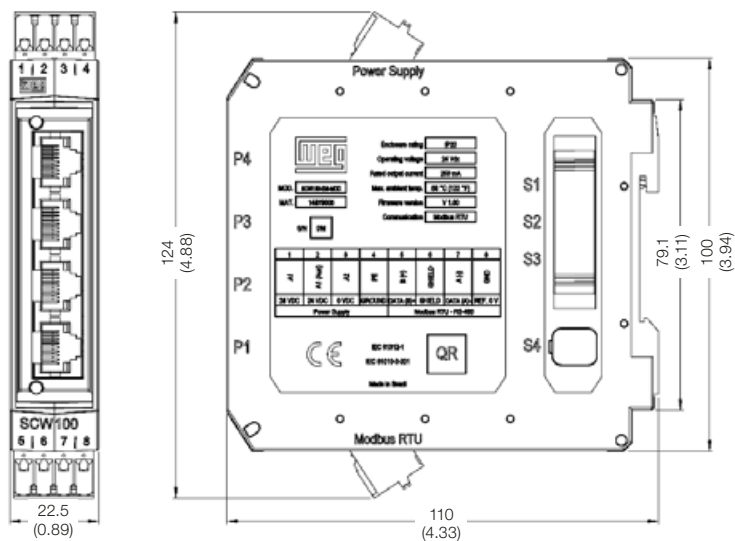


## Technical Data

General data	Mounting position	SCW100-SM: allows installation in any position CSW100-CM: observe the mounting position of contactors and motor-protective circuit breakers
	Pollution degree (UL 508)	2
	Protection rating (IEC 60529)	Starter Manager (SM): IP20 Connection Modules (CM): IP20
	Permissible ambient temperature	Operation: 0...+55 °C Storage and transportation: -25 ...+80 °C
Starter Manager (SM)	Rated insulation voltage $U_i$	300 V
	Rated supply voltage $U_s$	24 V dc
	Operation range	0.8...1.1 $U_s$
	Consumption	< 1.2 W
	Number of digital inputs	12 optically isolated PNP digital inputs
	Digital input power supply	24 V dc (maximum 30 V dc)
	Digital input current	6 mA @ 24 V dc
	Activation level	Low level: $V_{in} \leq 3$ V
		High level: $V_{in} \geq 10$ V
	Digital input isolation	3 kV
	Number of digital outputs	8 PNP digital outputs, isolated and protected
	Current capacity per digital output	250 mA
	Supply voltage for digital outputs	20.4...26.4 V dc
	Connector terminals	Spring block (push in)
Conductor cross-section	Solid and bare: 1 x (0.2 ... 2.5 mm <sup>2</sup> ); 1 x (26 ... 12 AWG)	
	Stranded with terminals: 1 x (0.2 ... 2.5 mm <sup>2</sup> ); 1 x (26 ... 12 AWG)	
	Stripping length: 10 ~ 11 mm	

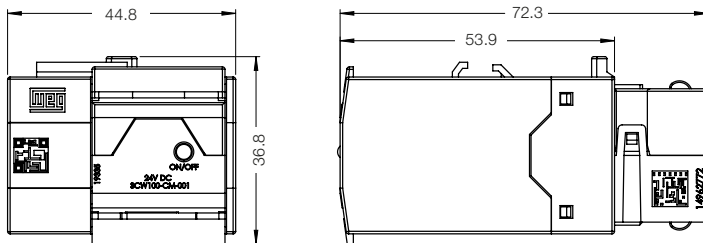
## Dimensions (mm)

### SCW100-SM

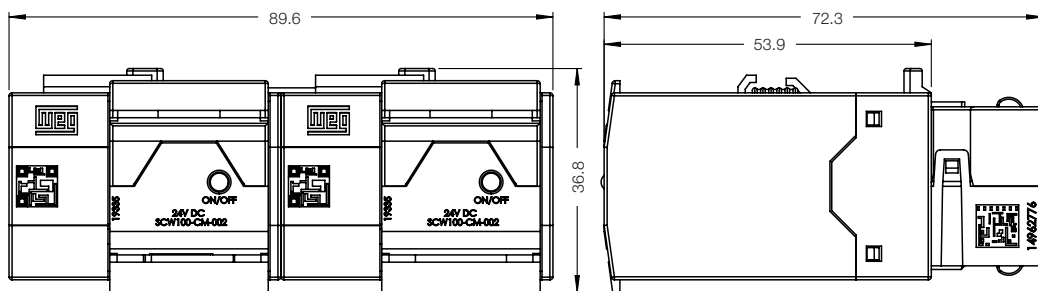


## Dimensions (mm)

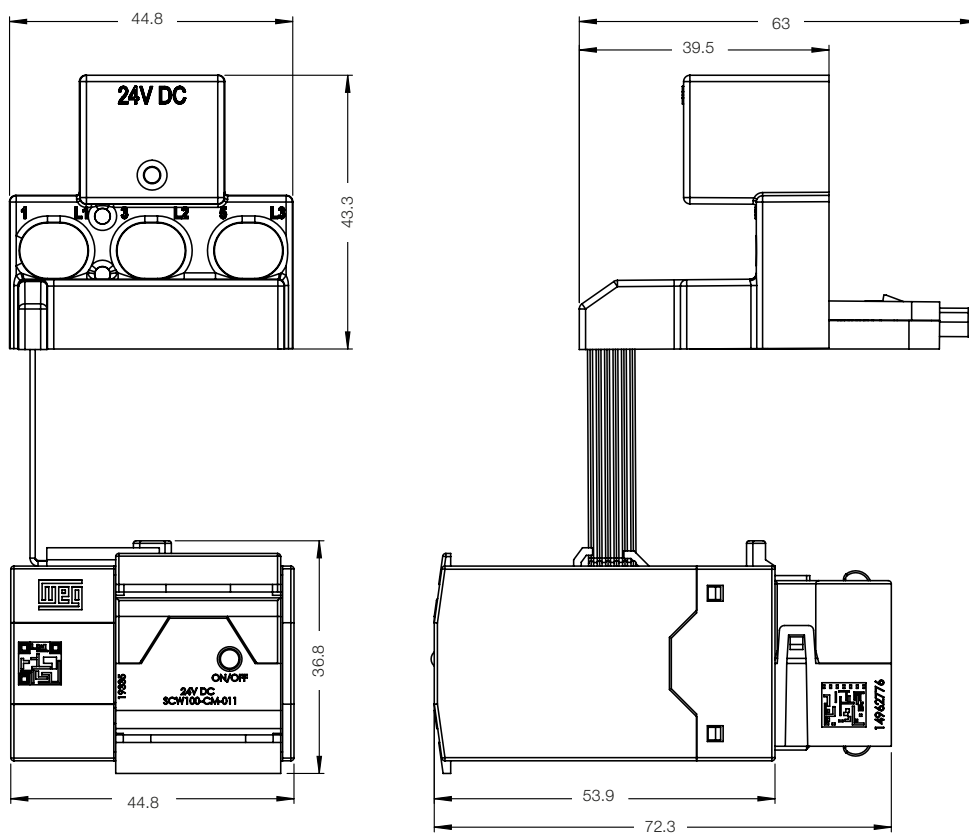
### SCW100-CM-001



### SCW100-CM-002

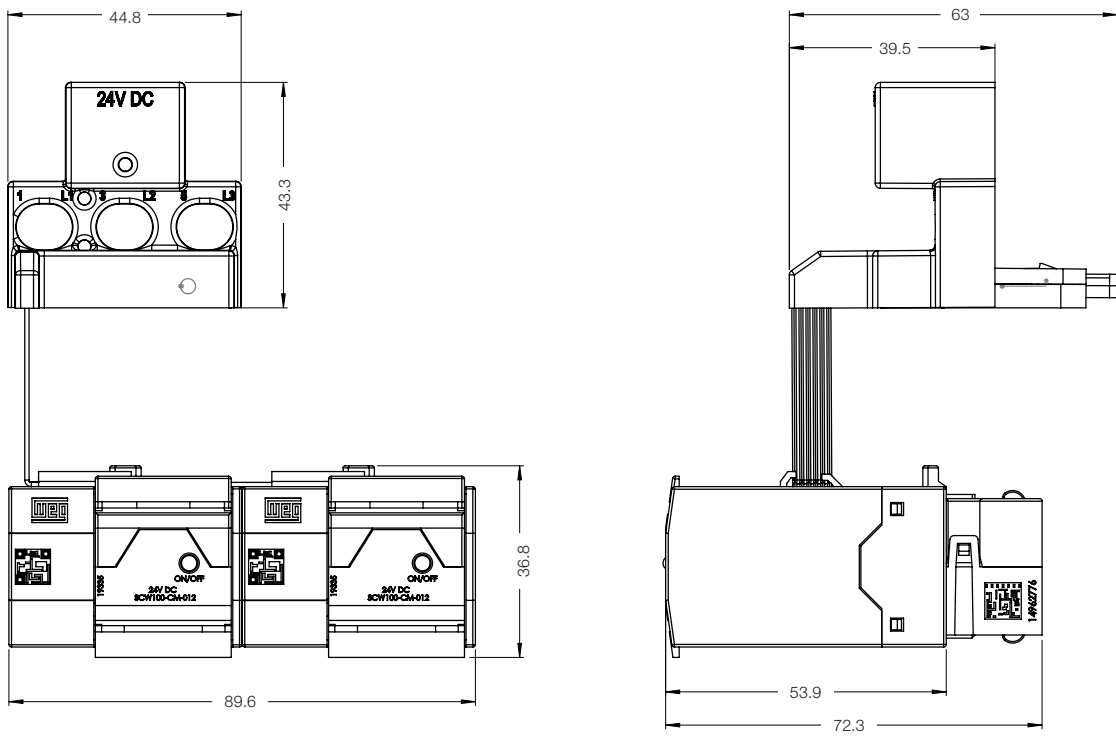


### SCW100-CM-011

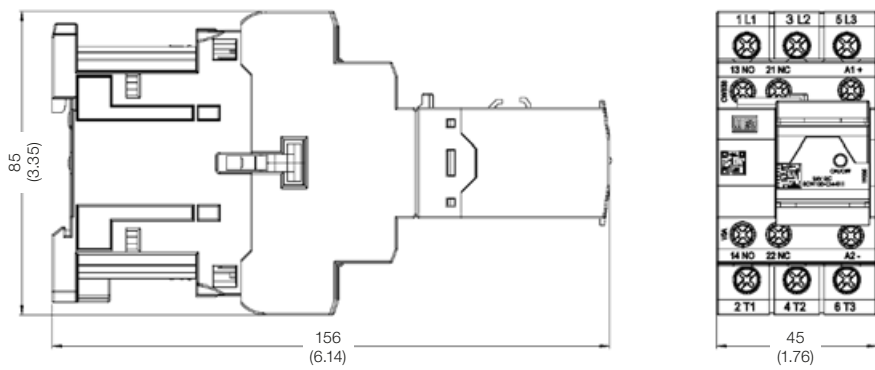


## Dimensions (mm)

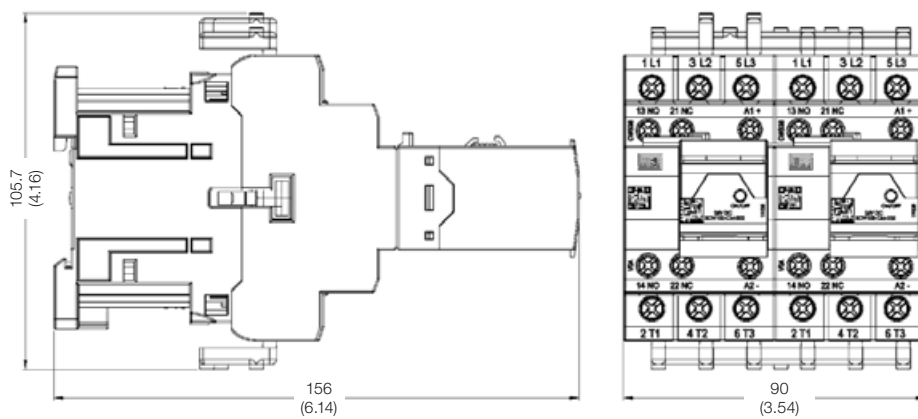
### SCW100-CM-012



### SCW100-CM-001 CWB9...38 Coil 24 V dc



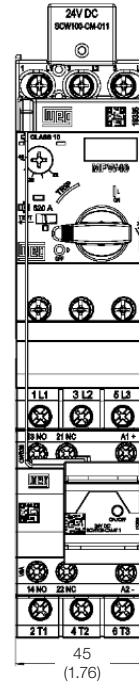
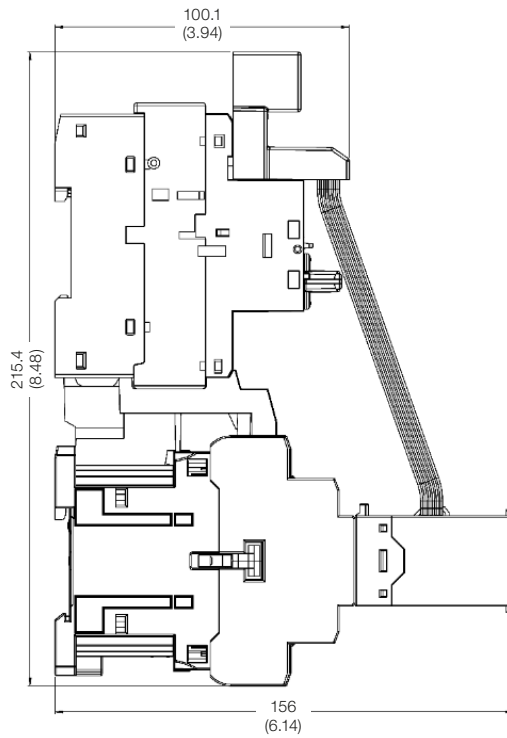
### SCW100-CM-002 + 2 x CWB9...38 Coil 24 V dc



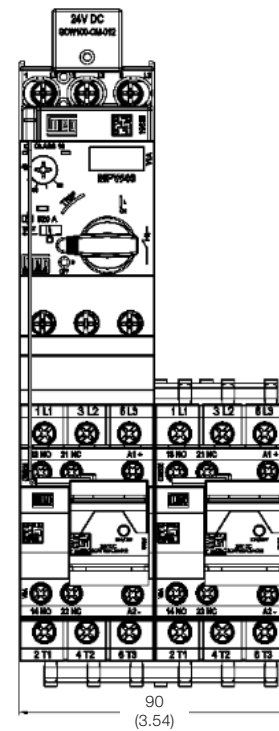
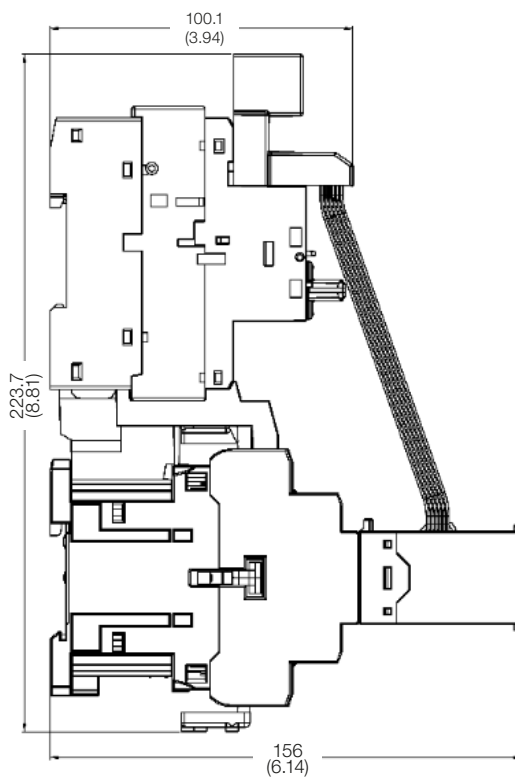


## Dimensions (mm)

### SCW100-CM-011 + MPW40 + CWB9...38 Coil 24 V dc



### SCW100-CM-012 + MPW40 + 2 x CWB9...38 Coil 24 V dc



**ATTENTION!** Read the user manual carefully before installing, inspecting, servicing and/or disposing of the products. Keep the user manual for future reference.  
**Note:** These procedures must always be performed by qualified personnel.



# Global presence is essential, as much as understanding your needs.

## Global Presence

With more than 30,000 employees worldwide, WEG is one of the largest electric motors, electronic equipments and systems manufacturers. We are constantly expanding our portfolio of products and services with expertise and market knowledge. We create integrated and customized solutions ranging from innovative products to complete after-sales service.

WEG's know-how guarantees the **SCW100 – Smart Connection** is the right choice for your application and business, assuring safety, efficiency and reliability.



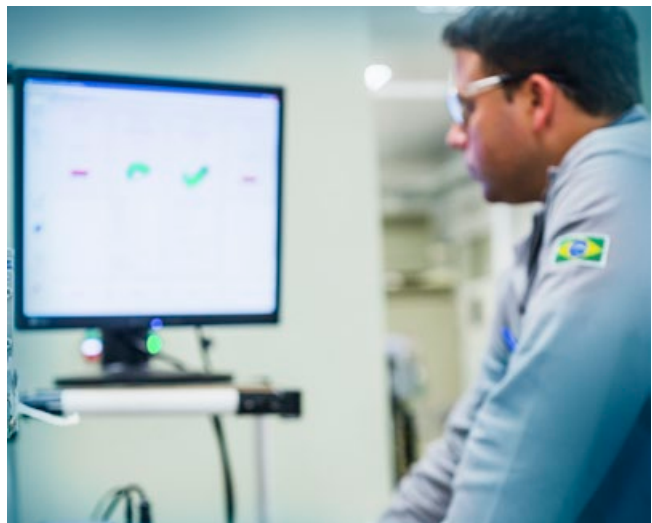
**Availability** is to have a global support network



**Partnership** is to create solutions that suit your needs



**Competitive edge** is to unite technology and innovation



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The values shown are subject to change without prior notice.  
The information contained is reference values.