

Variant Independent Options

Software and operator control

Basic Operator Panel (BOP)

With the BOP, individual parameter settings can be made. Values and units are shown on a 5-digit display.

A BOP can be used for several inverters. It is mounted in the operator panel mounting kit, for connection to the external communication interface of the inverter.

Advanced Operator Panel (AOP) for MICROMASTER 411/ COMBIMASTER 411

This AOP is used specifically for the MICROMASTER 411/ COMBIMASTER 411 products.

The AOP enables parameter sets to be read out of the inverter or to be written into the inverter (upload/download). Several different parameter sets can be stored in the AOP. It has a plain-text display with the possibility of switching between several languages.

It is mounted in the operator panel mounting kit, for connection to the external communication interface of the inverter.



Basic Operator Panel (BOP) and Advanced Operator Panel (AOP)

Commissioning Tools

- **STARTER**
is start-up software for guided commissioning of the MICROMASTER 4 series under Windows NT/2000/XP Professional¹⁾. Parameter lists can be read out, altered, stored, entered and printed.
- **DriveMonitor**
is start-up software for list-oriented parameterization of frequency inverters. This program can run under Windows 95/98/NT/2000/XP Professional. Both programs are part of the Docu-CD supplied with each unit.

Communication modules

ECOFAST PROFIBUS Module

This module enables the ECOFAST variants of the COMBIMASTER 411 and MICROMASTER 411 inverters to communicate in a PROFIBUS communications network. The transmission speed is 12 Mbps. The module also enables connection to three external inputs (2 digital and 1 analog) and 1 digital output via M12 connectors. The ECOFAST PROFIBUS module is enclosed in an external housing.

ECOFAST Options (especially for Addressing Connectors)

The ECOFAST PROFIBUS module has an addressing socket so that the PROFIBUS address can be set with the PROFIBUS addressing connector (Order No.: 6ES7194-1KB00-0XA0), which is available as an option.

For more information on ECOFAST cables, connectors and options, see Catalog IK PI.

AS-Interface Module

This module enables COMBIMASTER 411 and MICROMASTER 411 inverters to communicate as a slave in an AS-Interface (actuator sensor interface) communications network. In a standard AS-Interface system, up to 31 slaves can be connected, whereby each slave has up to 4 inputs and up to 4 outputs.

The module is enclosed in an external housing.



AS-Interface Module and PROFIBUS Module

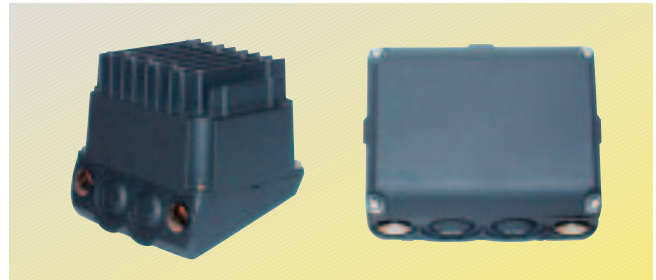
Brake function module

EM Module (Electromechanical Brake Control Module)

This module controls an electromechanical brake mounted on the motor. The module is for mounting on the case of the MICROMASTER 411/COMBIMASTER 411. For more information on the motor brake, see Catalog M11 "Technical Information", "Brakes".

REM Module (Resistor and Electromechanical Brake Control Module)

This module contains a brake chopper with brake resistor and controls an external electromechanical motor brake. The module is enclosed in an external housing with the same degree of protection as the product series.



REM Module and EM Module

¹⁾ STARTER version 3.0 and higher.

Variant Independent Options (continued)

Additional options

Operator Panel Mounting Kit

A BOP or AOP is used in the operator panel mounting kit, thus enabling connection to the inverter.

Interface Link Cable, serial

This cable is for connecting the serial interfaces of an inverter (M12 connector) to a PC (9-pin, D-type).

Connection Set for PC to Inverter

For controlling an inverter directly from a PC if the appropriate software (e.g. STARTER) has been installed in the PC. This connection set includes a floating RS-232 adapter module for reliable point-to-point connection to a PC. It is used in conjunction with an operator panel mounting kit.

Connection Set for PC to AOP

For connection of a PC to an AOP. Offline programming of inverters and archiving of parameter sets possible. Includes a desktop attachment kit for an AOP, an RS-232 standard cable (3 m) with Sub-D connectors and a universal power supply.

Operator Panel Door Mounting Kit for Single Inverter

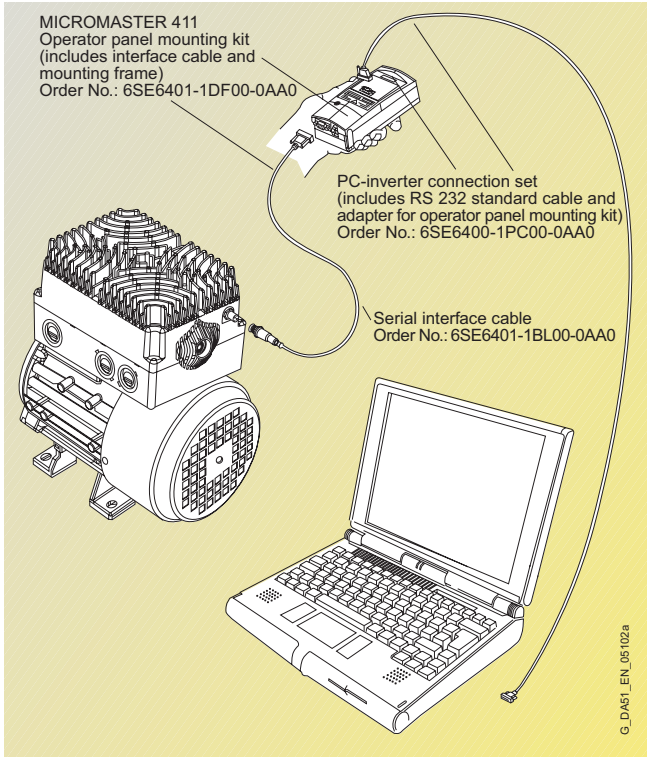
This mounting kit is for fixing an operator panel in the door of a control cabinet. Degree of protection IP56. The mounting kit contains a cable adapter module with screwless terminals for a 5 m cable assembly.

5 m Cable Assembly for Door Mounting Kit

This 5 m cable acts as the serial connection between COMBIMASTER 411/MICROMASTER 411 inverters and a door-mounted operator panel.

Key to programming options

	Operator Panel Programming	PC Programming	PC Programming (with Isolation)	PC Programming of AOP, loading data in inverter	Operator Panel Door Mounting Kit Programming
Operator Panel Mounting Kit (includes: Desktop Frame + Interface Link Cable)	●		●		
Interface Link Cable, serial		●		●	
Connection Set for PC to Inverter			●		
Operator Panel Door Mounting Kit					●
Operator Panel BOP	● ¹⁾				● ¹⁾
Operator Panel AOP	● ¹⁾			●	● ¹⁾
5 m Cable Assembly (M12)					●



Parameterization with operator panel mounting kit or PC-inverter connection kit (see also section "Key to programming options")