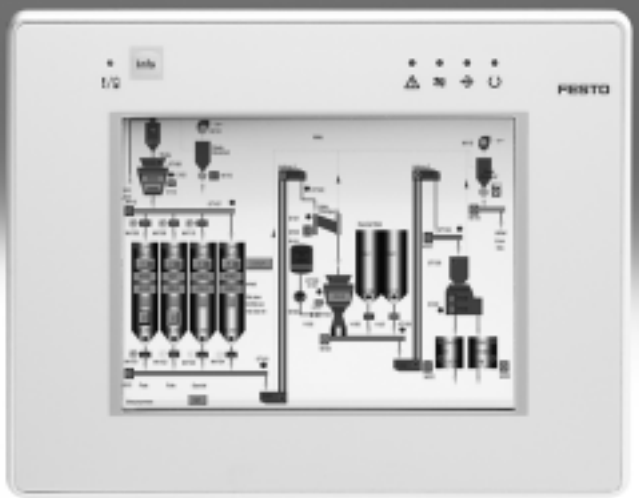
Operator units FED

FESTO



Operator units FED

Key features

Multifunctional in use

FED human-machine interfaces simplify the control of automation tasks at field level and set new standards in functionality and integration.

Whether for single or multi-axis control systems in handling technology or process automation, the Front End Display FED is the optimum solution.

FED-50:
The semi-graphical display of process values makes them easier to read. Straightforward designing of human-machine dialogues using the FED Designer programming tool supplied.

FED-770, FED-3000:
Graphics-capable for maximum flexibility when displaying processes and data. Straightforward designing of human-machine dialogues using the FED Designer programming tool supplied. With integrated web features that support the use of standards.

Text-based Front End Displays FED-50

For simple dialogues using 4-line text display and operating buttons whether via a serial, fieldbus or Ethernet connection – the text panels of the FED series are 100% compatible with Festo controllers.

The following functionalities are available depending on the version:
- Serial interface, optional Ethernet for use in a network
- Battery backup of the alarm and event data
- FED Designer graphical design tool included
- No parameterisation required; the software contains the controller data and detects the display
- Simple graphics possible, enabling scalable font size and simple representation of pictograms and bar charts
- Software for uploading projects
- Recipe handling
- Simple data acquisition
- Generous program memory
- Real-time clock
- Password protection
- Alarm handling
- Keypad can be easily programmed using macros
- Multilingual projects possible
- Import and export of texts for translation

FED-50: fieldbus-capable

A serial connection is established with the controller. Operation is by means of four freely programmable function keys and seven system keys.

The FED-50 can be extended with an Ethernet or fieldbus interface.
A real-time clock is standard.

Front End Displays with touchscreen FED-770, FED-3000

The touchscreen displays FED-770, FED-3000 with graphical user interface extend the proven text-based and key pad-equipped Front End Displays

FED-50 to include touch-sensitive displays in sizes from 7" and 13.3". As alternatives to CPX handhelds and integrated displays, these Front End

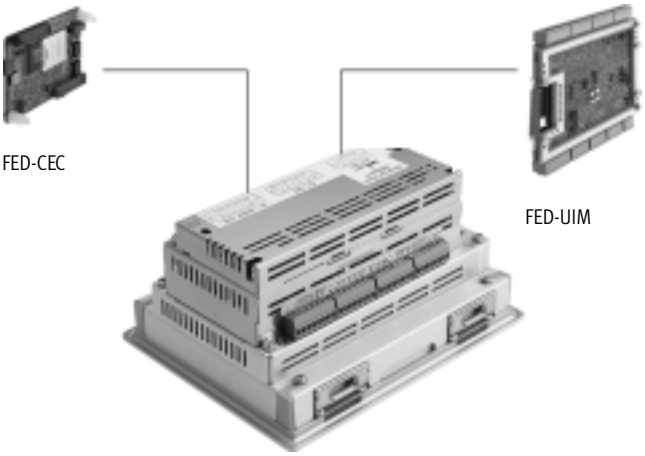
Displays provide a freely definable user interface.
As a client/server system, the terminal receives data from web servers

connected to it and displays this data using the integrated browser functionality.

Operator units FED

Key features

FED-CEC with CoDeSys software platform



CoDeSys makes your life easier with simple commissioning, fast programming and parameterisation – standardised programming of embedded devices to IEC 61131-3.

- Hardware-neutral software platform for quick and easy configuration, programming and commissioning of pneumatic and electric automation solutions.
- Extensive module libraries for single or multi-axis positioning motions.
- The IEC 61131-3 standard means that CoDeSys is flexible and open for all types of control tasks.
- Extremely flexible and modular: offline and online functions, as well as components for hardware configuration and visualisation. User-friendly IEC functional module extension.
- Re-use of existing application parts.

Functions

- Can be connected to all FEC® and CoDeSys controllers from Festo, serially or via Ethernet
- Trend display
- Recipe handling
- Multilingual projects and language changeover during runtime
- Software enables uploading of projects
- Import and export of texts for translation

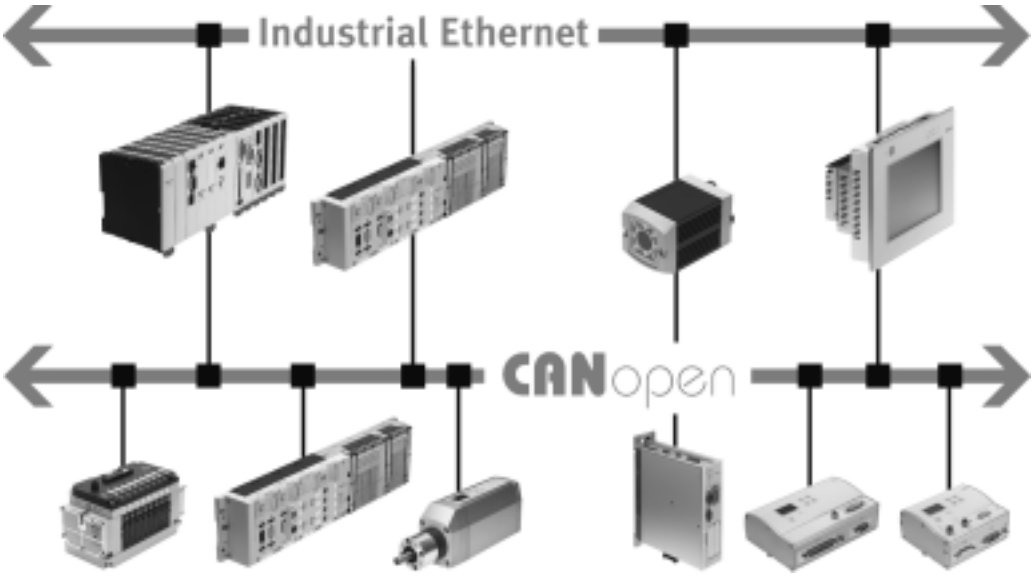
Designing

Straightforward designing and programming with the programming tool CoDeSys provided by Festo and FED Designer.

Key features at a glance

- Convenient FED Designer WYSIWYG design tool.
- No duplicate work thanks to import of variable declarations (allocation list) from the control software.
- Can also be used with Festo FEC® and CoDeSys controllers from Festo in a network by means of Ethernet.
- Graphics capability offers maximum flexibility when displaying processes and data.
- Shorter design times thanks to reusability of objects (libraries containing graphical elements).
- Generous memory means almost unlimited numbers of graphics and texts can be displayed.
- Display of complex processes is possible thanks to an unlimited number of variables per page.
- Extremely sturdy thanks to a metal housing to facilitate use in tough environments.

The Front End Displays in the Festo controller landscape



Operator units FED

Product range overview, type codes

Type	Display resolution	Number of colours	Display size	Interfaces	➔ Page/Internet
Text-based					
FED-50	120x32 pixels	B/W	4x20 characters	PLC, PC, Ethernet[1)]	5
Touch screen					
FED-770	WVGA, 800x480 pixels	64 k	7”	PLC, PC, printer, Ethernet[1)]	7
FED-3000	WXGA, 1280x800 pixels	64 k	13.3”	PLC, PC, printer, Ethernet[1)]	

1) RJ45 10/100 MBd standard, 2nd 10 MBd interface optional

Type codes

FED – 3000

Function	
FED	Teach pendant

Display size, equipment	
Text-based	
50	4 x 20 characters Equipment details ➔ Product range overview and Technical data
Touch screen	
770	7”, 64 k colours
3000	13.3”, 64 k colours

Operator units FED, text-based

Technical data

FESTO

- Voltage
  18 ... 30 V DC
- Temperature range
  0 ... +50 °C

General technical data		
		FED-50
Display		Monochrome LCD with backlighting
Display size		4x20 characters
Display resolution		120x32 pixels
Number of colours		–
Number of function keys		4
Number of system keys		7
Number of user LEDs		5
Number of system LEDs		4
User memory		512 KB
Recipe memory		16 KB
Event lists		256
Alerts		1,024
Type of mounting		Front panel mounting
Installation depth	[mm]	53
Max. front panel thickness	[mm]	5

Electrical data		
		FED-50
Nominal operating voltage DC	[V]	24
Operating voltage range DC	[V]	18 ... 30
Current consumption at nominal operating voltage	[A]	0.25
AUX interface		Sub-D socket, 9-pin
Printer interface		–
Ethernet interface		Optional, 10 MBd
PC interface		Sub-D plug, 15-pin, RS232
Programming interface		9.6 ... 38.4 kBd
Programming software		FED Designer 6.06 or higher
PLC interface		Sub-D plug, 15-pin, RS232
Backup battery		3 V/270 mA lithium
Real-time clock		Yes
Real-time clock deviation		130 s/month
Protection class		IP65 at the front following installation into control panel, IP20 at the back

Operator units FED, text-based

Technical data

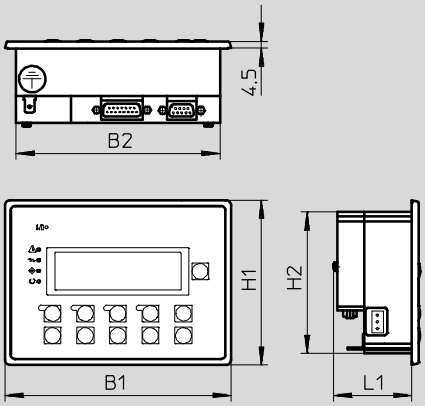
Operating and environmental conditions		
Ambient temperature	[°C]	0 ... +50
Storage temperature	[°C]	–20 ... +70
Relative air humidity	[%]	5 ... 85, non-condensing
CE mark (see declaration of conformity)		To EU EMC Directive[1)]
Certification		RCM trademark
		c UL us - Listed (OL)
Explosion protection certification outside the EU		NEC 500 Class I, Div. 2

1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com/sp ➔ User documentation.
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

Weight [g]		
		FED-50
Product weight	[g]	1000

Dimensions Download CAD data ➔ **www.festo.com**

FED-50



Type	B1	B2	H1	H2	L1
FED-50	149	134	108.5	93.5	52.5

Ordering data

Display resolution	Number of colours	Display size	Interfaces	Number of function/ system keys	Part No.	Type
120x32 pixels	B/W	4x20 characters	PLC, PC, Ethernet[1)]	4/7	**533531**	**FED-50**

1) 10 MBd optional

Operator units FED, touch screen

Technical data

FESTO

- Voltage
  18 ... 30 V DC
- Temperature range
  0 ... +50 °C

General technical data			
		FED-770	FED-3000
Display properties		Touch screen	
Display		Colour TFT	
Display size		7”	13.3”
Display resolution		WVGA, 800x480 pixels	WXGA, 1280x800 pixels
Number of colours		64 k	
Number of function keys		1	
Number of user LEDs		1	
Number of system LEDs		4	
User memory		64 MB	64 MB
Recipe memory		32 KB	
Event lists		1,024	
Alerts		1,024	
Type of mounting		Front panel mounting	
Installation depth	[mm]	45	42
Max. front panel thickness	[mm]	4	4
Materials			
Note on materials		RoHS-compliant	

Electrical data			
		FED-770	FED-3000
Nominal operating voltage DC	[V]	24	
Operating voltage range DC	[V]	18 ... 30	
Current consumption at nominal operating voltage	[A]	0.6	1.4
AUX interface		Sub-D socket, 9-pin	
Printer interface		Sub-D socket, 15-pin, RS232	
Ethernet interface		RJ45 10/100 MBd	
		2nd Ethernet interface optional, 10 MBd	
PC interface		Sub-D socket, 15-pin, RS232	
USB interface		Yes	Yes
Programming interface		9.6 ... 38.4 kBd	
Programming software		FED Designer 6.06 or higher	
PLC interface		Sub-D plug, 9-pin, RS232, RS485	Sub-D plug, 9-pin, RS232, RS485
Backup battery		Lithium, rechargeable	Lithium, rechargeable
Real-time clock		Yes	
Real-time clock deviation		130 s/month	
Protection class		IP65 at the front following installation into control panel, IP20 at the back	

Operator units FED, touch screen

Technical data

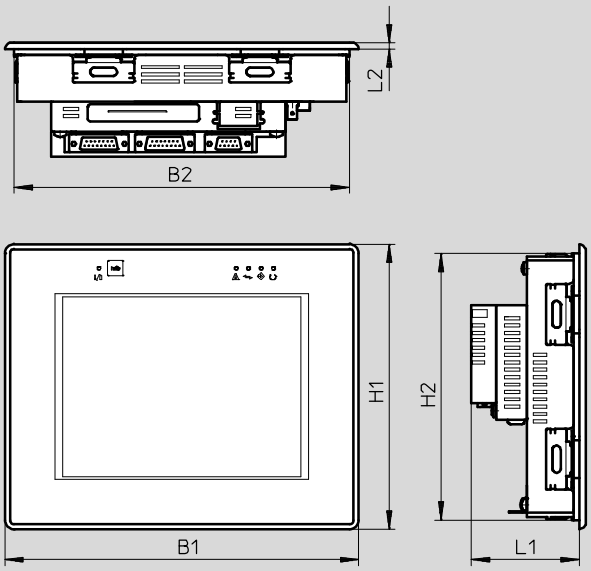
Operating and environmental conditions			
		FED-770	FED-3000
Ambient temperature	[°C]	0 ... +50	0 ... +50
Storage temperature	[°C]	–20 ... +70	
Relative air humidity	[%]	5 ... 85, non-condensing	
CE mark (see declaration of conformity)		To EU EMC Directive[1)]	
Certification		cULus listed (OL)	
		C-Tick	
Ex certification to NEC 500		–	–

1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com/sp ➔ User documentation.
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

Weight [g]			
		FED-770	FED-3000
Product weight	[g]	1000	2500

Dimensions Download CAD data ➔ **www.festo.com**

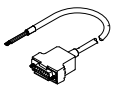
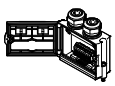
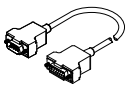
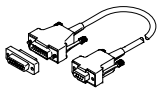
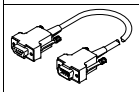
FED-770, FED-3000

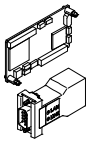


Type	B1	B2	H1	H2	L1	L2
FED-770	187	175	147	135	45	4
FED-3000	337	325	267	255	41.5	4

Ordering data						
Display resolution	Number of colours	Display size	Interfaces	Number of function/ system keys	Part No.	Type
WVGA, 800x480 pixels	64 k	7"	PLC, PC, printer, Ethernet[1)]	–	**573905**	**FED-770**
WXGA, 1280x800 pixels	64 k	13.3"	PLC, PC, printer, Ethernet[1)]	–	**573906**	**FED-3000**

1) 10/100 MBd standard

Ordering data – Cables and plugs					
	Description	Electrical connection	Cable length [m]	Part No.	Type
	For connecting to control block CPX-FEC Prepared for combining with plug FBS-SUB-9-GS-1X9POL-B	Open end Sub-D socket, 15-pin	5	**539642**	**FEC-KBG7**
	Suitable for control block CPX-FEC For combining with cable FEC-KBG7	Sub-D plug, 9-pin	–	**534497**	**FBS-SUB-9-GS-1X9POL-B**
	For connecting to control block CPX-FEC	Sub-D plug, 15-pin Sub-D socket, 15-pin	2.5	**539643**	**FEC-KBG8**
	Programming cable	Sub-D plug, 15-pin Sub-D socket, 15-pin	3	**533534**	**FEDZ-PC**
	Connecting cable, serial	Sub-D plug, 9-pin Sub-D socket, 9-pin	3	**575299**	**FEDZ-PC-9PIN**

Ordering data				
	Description	Electrical connection	Part No.	Type
Fieldbus interface				
	Ethernet TCP interface module (CoDeSys controller software)	Sub-D adapter, 9-pin to RJ45	**543450**	**FEDZ-IET TCP**