

Operation, Monitoring and Visualization
with Drive Operator Terminals

DOP11B Operator Terminals



Optimum visualization with operator terminals: DOP11B

Modern drive inverters and controllers more and more take on control-relevant functions. In particular, drive tasks, such as positioning, synchronous operation and the coordinated movement of several drives in relation to one another, are being performed with high levels of accuracy.

An increase in functionality goes hand in hand with an increase in requirements in terms of operation, visualization and diagnostics. Constant optimization of the production process by adjusting individual parameters such as velocity, target positions, stop marks, ramps etc. is the prerequisite for a cost-efficient and reliable system.

SEW-EURODRIVE has responded to this development with the DOP11B operator terminal series to implement additional and new functions in modern systems, such as improved system performance, additional fonts and extended memory capacity. The DOP11B operator terminals make for optimum visualization and operation of the system. The same is true particularly in conjunction with higher-level controllers.

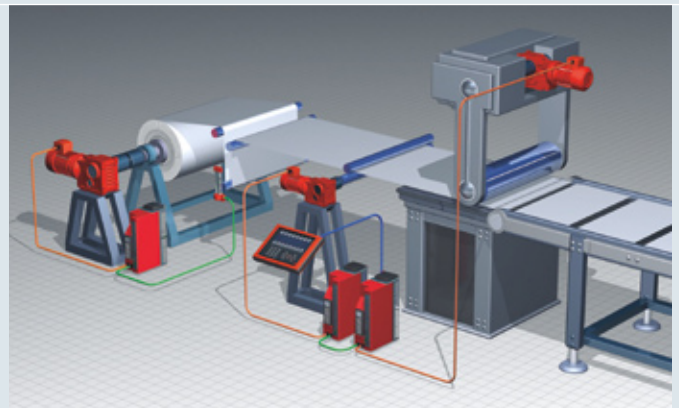
Driving the world – with innovative drive solutions for all branches of industry and for every application. Products and systems from SEW-EURODRIVE for any application – world-wide. SEW-EURODRIVE products can be found in a variety of industries, e. g. automotive, building materials, food and beverage as well as metal-processing. The decision to use drive technology “made by SEW-EURODRIVE” stands for safety regarding functionality and investment.



A perfect match

When drive electronics from SEW-EURODRIVE, such as intelligent MOVIDRIVE® inverters with motion control functionality integrated as option, MOVI-PLC® compact controllers or MOVITRAC® B frequency inverters are involved, the technical functions of the operator terminals are increased as they access the inverter parameters directly. The recipe management function can be used to configure the system for a new product at the

push of a button. This is possible because all the necessary parameters are transmitted from the operator terminal to the connected inverter. Communication between the drive electronics and the operator terminal is made possible by means of serial communication via RS485 connections or Ethernet TCP/IP. Both interfaces are available as standard with all new units.



The drive operator terminals make for an application-specific operation and diagnostics interface for the user (human machine interface) so that the machine or system can be operated simply and effectively.



Drive operator terminals (DOP): operation and monitoring functions with one unit

The DOP11B operator terminals have been developed to meet the increased requirements set for human/machine communication when controlling or monitoring different applications in the manufacturing and process industries. They make communication between human and machine simple and safe even for the most complex production processes.





The operator terminals simplify the operator's work as they can easily be adapted to the working environment. The operator has quick and easy access to information on the current machine status and is able to change settings directly and flexibly. This means operators can continue to use the concepts they are familiar






with. The functions of the operator terminals make for a graphical and text-based display and control of the production process. The terminals are easy to operate and are cost-effective compared to conventional solutions with buttons, indicator lamps, time relays, preset counters and seven-day clocks.



Overview of the Drive
Operator Terminal series

DOP11B at a glance

Type of operator terminal:	Functions:
DOP11B-10 	<ul style="list-style-type: none"> – 160 x 32 pixels or 4 x 20 / 2 x 20 characters text – LCD graphic display monochrome with LED backlighting – 24 V voltage supply – 2 serial interfaces (RS-232 and RS-422/RS-485) – IP66 membrane keypad with navigation keys, numeric keypad and 6 function keys – 6 LEDs – Ethernet optional – 500 kbyte application memory
DOP11B-15 	<ul style="list-style-type: none"> – 240 x 64 pixels or 8 x 40 / 4 x 20 characters text – LCD graphic display monochrome with LED backlighting – 24 V voltage supply – 2 serial interfaces (RS-232 and RS-422/RS-485) – IP66 membrane keypad with navigation keys, numeric keypad and 6 function keys – 6 LEDs – Ethernet optional – 500 kbyte application memory
DOP11B-20 	<ul style="list-style-type: none"> – 240 x 64 pixels or 8 x 4 / 4 x 20 characters text – LCD graphic display monochrome with LED backlighting – 24 V voltage supply, max. 350 mA – 2 serial interfaces (RS-232 and RS-422/RS-485) – IP66 membrane keypad with navigation keys, numeric keypad and 8 function keys – 16 LEDs (two colors; red / green) – USB – Ethernet 10/100 Mbit – 12 MB application memory
DOP11B-25 	<ul style="list-style-type: none"> – 320 x 240 pixels – Touch display (16 gray scale, TFT, 5.7") with CCFL backlighting – 24 V voltage supply, max. 450 mA – 2 serial interfaces (RS-232, RS-422/RS-485) – IP66 – Horizontal or vertical installation – USB – Ethernet 10/100 Mbit – 12 MB application memory

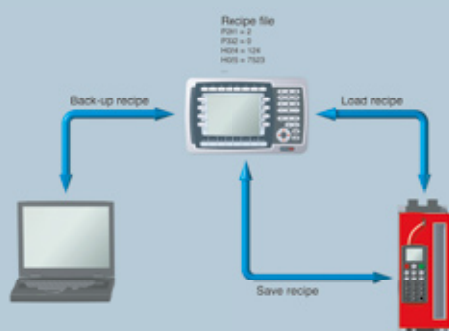
Type of operator terminal:	Functions:
DOP11B-30 	<ul style="list-style-type: none"> – 320 x 240 pixels – Touch display (64k colors, TFT, 5.7") with CCFL backlighting – 24 V voltage supply, max. 450 mA – 2 serial interfaces (RS-232, RS-422/RS-485) – IP66 – Horizontal or vertical installation – USB – Ethernet 10/100 Mbit – 12 MB application memory
DOP11B-40 	<ul style="list-style-type: none"> – 320 x 240 pixels – Touch display (64k colors, CSTN, 5.7") with CCFL backlighting – 24 V voltage supply, max. 500 mA – 2 serial interfaces (RS-232, RS-422/RS-485) – IP66 membrane keypad with navigation keys, numeric keypad and 16 function keys – 16 LEDs (two colors; red / green) – USB – Ethernet 10/100 Mbit – 12 MB application memory
DOP11B-50 	<ul style="list-style-type: none"> – 800 x 609 pixels – Touch display (64k colors, TFT, 10.4") with CCFL backlighting – 24 V voltage supply, max. 1 A – 2 serial interfaces (RS-232, RS-422/RS-485) – IP66 – Horizontal or vertical installation – USB – Ethernet 10/100 Mbit – 12 MB application memory
DOP11B-60 	<ul style="list-style-type: none"> – 1024 x 768 pixels – Touch display (64k colors, TFT, 15") with CCFL backlighting – 24 V voltage supply, max. 1.7 A – 2 serial interfaces (RS-232, RS-422/RS-485) – Horizontal or vertical installation – USB – Ethernet 10/100 Mbit – 12 MB application memory
DOP11B-M70 (Mobile operator panel) 	<ul style="list-style-type: none"> – 640 x 480 pixels – Touch display (64k colors, TFT, 6.5") with CCFL backlighting – IP65 membrane keypad with navigation keys and 8 function keys – Serial interface (RS-232) – IP65 – USB – Ethernet 10/100 Mbit – 12 MB application memory

Numerous functions – simple handling

Recipe management

Use recipe management to save all dynamic data and parameters of the machine in the operator terminal. The operator can transmit the data to the connected drive inverters at the push of a button. The loaded values are then processed in the inverters.

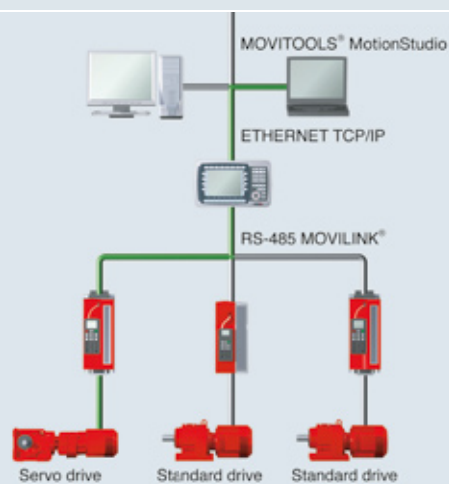
You can reuse comprehensive parameter configurations with the help of the recipe management function. Users can set up a recipe directory with files offering different parameter settings. This function makes for an efficient design of production runs with tight schedules that require a fast product change, such as in the production of identical products in different colors.



Gateway function

The DOP11B terminals can act as gateways between different interfaces. This feature enables, for example, communication between the MOVITOOLS® MotionStudio operating software and the drive inverters connected to the DOP11B.

When using the Ethernet interface of the DOP11B terminals, you can operate MOVITOOLS® MotionStudio on any PC within the company network and have the software communicate with the drive inverters connected to the DOP.



Dual driver function

You can activate two different communication protocols in the operator terminal. This options lets the Drive Operator Terminals communicate with the SEW-EURODRIVE drive electronics, such as the MOVIDRIVE® inverters, and a connected PLC.

Communication paths

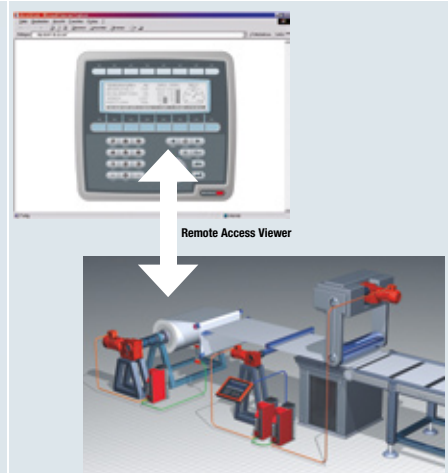
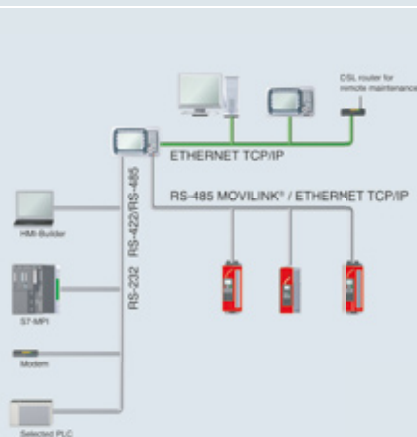
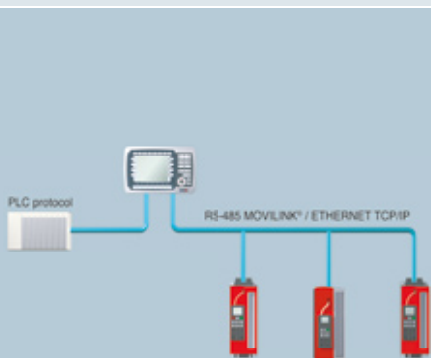
The operator terminals in the DOP11B series are equipped with two serial interfaces and an Ethernet interface as standard. All interfaces can operate at the same time and can be configured to different functions:

- Communication with drive electronics
- Programming interface
- Modem interface
- Communication with selected controllers
- Integrated in network topology

Integrated WEB server

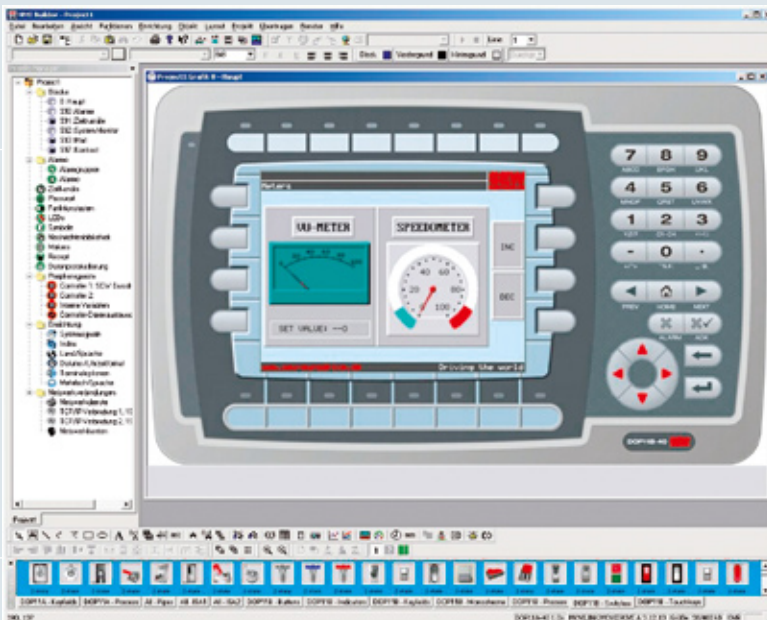
User websites can be displayed using the WEB server integrated in the DOP11B. These websites can, for example, provide information on the current system status. You can use an Internet browser, e.g. Internet Explorer, to “surf” the DOP without additional, unit-specific software. In this way, data displayed in HTML pages can be accessed at any time throughout the company.

Furthermore, you can use the “Remote Access Viewer” function to display an image of the DOP11B on the PC screen. The image is updated at regular intervals or on request. Local or remote operators have access to all functions of the DOP11B terminals per mouse click.



Quick and easy programming using the HMI-Builder operating software

The HMI-Builder is easy to use. Standard Windows interfaces and integrated help texts make sure that users can familiarize themselves with the user interface quickly and easily.



What you see is what you get

The visualization must be adapted to the system to display the different states and data of the system in the operator terminal.

The DOPs are programmed using the HMI-Builder operating software that works on the "What you see is what you get" principle. During programming the user can see how the operators will see the visualization at a later date.



Toolboxes

The HMI-Builder provides an object library with a large selection of static and dynamic objects. These objects are represented by simple and il-

lustrative symbols. The user simply selects and edits objects to create his or her own personalized screen display.

Protecting selected system parts from unauthorized access

Protection of

- Objects
- Function keys
- System parameters
- Project changes, etc.
- 8 protection levels can be defined



H10 → Start_filling
H10 =1

Main function (IPOS entry function)

```
main ()
{
    if (start_filling == 1)
    {
        fcn_filling()
    }
}
```

Function keys

The function keys allow the user to navigate through the menu quickly and easily. It is possible to execute several commands per function key with the help of macros.

Overview of advantages of the HMI-Builder project planning and programming software:

- Operation and observation
- Project display based on WYSIWYG
- Project structuring according to menu tree
- Object selection window (tool box) with comprehensive object library
- Several projects can be opened at the same time
- Project manager
- Configuration of periphery and network functions
- Simple activation of predefined functions via function keys
- Full Windows support: copy/paste etc.
- Offline simulator
- Operation with Windows 2000 and XP

How we're driving the world



SEW-EURODRIVE
Driving the world

SEW-EURODRIVE is right there for you:

Argentina

Phone +54 3327 4572-84
Fax +54 3327 4572-21
sewar@sew-eurodrive.com.ar

Australia

Phone +61 3 9933-1000
Fax +61 3 9933-1003
enquires@sew-eurodrive.com.au

Austria

Phone +43 1 617 55 00-0
Fax +43 1 617 55 00-30
sew@sew-eurodrive.at

Belarus

Phone +375 17 298 38 50
Fax +375 17 298 1898
sales@sew.by

Belgium

Phone +32 10 231-311
Fax +32 10 231-336
info@sew-eurodrive.be

Brazil

Phone +55 11 2489-9133
Fax +55 11 2480-3328
sew@sew.com.br

Canada

Phone +1 905 791-1553
Fax +1 905 791-2999
marketing@sew-eurodrive.ca

Chile

Phone +56 2 75770-00
Fax +56 2 75770-01
ventas@sew-eurodrive.cl

China

Phone +86 22 25322612
Fax +86 22 25322611
gm-tianjin@sew-eurodrive.cn

Colombia

Phone +57 1 54750-50
Fax +57 1 54750-44
sewcol@sew-eurodrive.com.co

Czech Republic

Phone +420 255709601
Fax +420 220121237
sew@sew-eurodrive.cz

Denmark

Phone +45 43 9585-00
Fax +45 43 9585-09
sew@sew-eurodrive.dk

Finland

Phone +358 201 589-300
Fax +358 3 7806-211
sew@sew.fi

France

Phone +33 3 88 73 67 00
Fax +33 3 88 73 66 00
sew@usocome.com

Great Britain

Phone +44 1924 893-855
Fax +44 1924 893-702
info@sew-eurodrive.co.uk

Hong Kong

Phone +852 36902200
Fax +852 36902211
contact@sew-eurodrive.hk

Hungary

Phone +36 1 437 06-58
Fax +36 1 437 06-50
office@sew-eurodrive.hu

India

Phone +91 265 2831086
Fax +91 265 2831087
mdoffice@seweurodriveindia.com

Italy

Phone +39 02 96 9801
Fax +39 02 96 799781
sewit@sew-eurodrive.it

Japan

Phone +81 538 373811
Fax +81 538 373814
sewjapan@sew-eurodrive.co.jp

Kazakhstan

Phone +7 727 334 1880
Fax +7 727 334 1881
sew@sew-eurodrive.kz

Malaysia

Phone +60 7 3549409
Fax +60 7 3541404
sales@sew-eurodrive.com.my

Mexico

Phone +52 442 1030-300
Fax +52 442 1030-301
scmexico@seweurodrive.com.mx

Netherlands

Phone +31 10 4463-700
Fax +31 10 4155-552
info@vector.nu

New Zealand

Phone +64 9 2745627
Fax +64 9 2740165
sales@sew-eurodrive.co.nz

Norway

Phone +47 69 241-020
Fax +47 69 241-040
sew@sew-eurodrive.no

Peru

Phone +51 1 3495280
Fax +51 1 3493002
sewperu@sew-eurodrive.com.pe

Poland

Phone +48 42 6765300
Fax +48 42 6765349
sew@sew-eurodrive.pl

Portugal

Phone +351 231 20 9670
Fax +351 231 20 3685
info@sew@sew-eurodrive.pt

Russia

Phone +7 812 3332522
Fax +7 812 3332523
sew@sew-eurodrive.ru

Singapore

Phone +65 68621701
Fax +65 68612827
sewsingapore@sew-eurodrive.com

Slovakia

Phone +421 2 33595202
Fax +421 2 33595200
sew@sew-eurodrive.sk

South Africa

Phone +27 11 248-7000
Fax +27 11 494-3104
dross@sew.co.za

South Korea

Phone +82 31 492-8051
Fax +82 31 492-8056
master@sew-korea.co.kr

Spain

Phone +34 94 4318470
Fax +34 94 4318471
sew.spain@sew-eurodrive.es

Sweden

Phone +46 36 344200
Fax +46 36 344280
info@sew-eurodrive.se

Switzerland

Phone +41 61 41717-17
Fax +41 61 41717-00
info@imhof-sew.ch

Thailand

Phone +66 38 454281
Fax +66 38 454288
sewthailand@sew-eurodrive.com

Turkey

Phone +90 216 4419163
Fax +90 216 3055867
sew@sew-eurodrive.com.tr

Ukraine

Phone +380 56 370 3211
Fax +380 56 372 2078
sew@sew-eurodrive.ua

Uruguay

Phone +598 2 21181-89 +90
Fax +598 2 21181-89 +90
sewuy@sew-eurodrive.com.uy

USA

Phone +1 864 439-7537
Fax +1 864 439-0566
cslyman@seweurodrive.com

Venezuela

Phone +58 241 832-9804
Fax +58 241 838-6275
ventas@sew-eurodrive.com.ve

**SEW
EURODRIVE**

SEW-EURODRIVE GmbH & Co KG
P.O.Box 30 23
76642 Bruchsal/Germany
Phone +49 7251 75-0
Fax +49 7251 75-1970
sew@sew-eurodrive.com

→ www.sew-eurodrive.com