

DISOMAT Tersus Weighing terminals

- A weighing terminal with all the equipment
- Configurable LCD display
- Built-in Ethernet port
- Fieldbus interfaces (optional)
- Also available with two measuring channels



Application

The compact DISOMAT Tersus weighing terminal can be optimally used in a wide range of weighing applications, regardless of whether the focus of this application is on operating the scale, data processing, controlling the process or communicating with on-site systems. For typical applications, 4 predefined configurations are stored in the device as function variants for easy retrieval:

- Cargo scale
- Crane scale
- Filling scale
- Discharge scale

These function variants offer the user a tried and tested range of functions adapted to the respective application without depriving him of the possibility of customizing the scale to his specific requirements.

Optionally, a configuration as a truck scale (input/output scale) or a crane scale with collective load memory can also be activated.

By adapting the linking of the logical function blocks, the functionality of the DISOMAT Tersus can be individually adapted to almost any weighing task.

This is done either conveniently using the DISOPLAN PC program (graphical user interface) or directly on the device. In this way, adjustments can be made easily and cost-effectively on site without the need for programming.

In the optional 2-channel measuring device version, the DISOMAT Tersus is also suitable, for example, for the operation of twin-unit road weigh bridges or dual trolley cranes with separate overload detection, or the fill levels of two containers can be monitored simultaneously. Parallel processing of two feeding processes is also possible.

Equipment

The weight is displayed permanently on the back-lit, color display in QVGA (320 x 240 dots) format, also while the operator makes entries in the 7-line dialog field of the display or during status messages. For instance, this might be information on the progress of feeding in progress (a block diagram), on the position of the inputs or outputs or help for operating the terminal.

A special mode ("the telephone alphabets") can also be used to key in α -characters via keyboard. Für komfortablere Eingaben, insbesondere für häufige Texteingaben, steht optional eine abgesetzte Hubtastatur zur Verfügung.

A second, independent control terminal can be implemented at any time using an additional DISOMAT Tersus in the "mirror" configuration.

A total of 8 binary inputs and 12 binary outputs can be used to control the scale and the DISOMAT Tersus. An analog I/O module (2 inputs/2 outputs) can be added.

You can adapt the functionality of the inputs/outputs by linking the function blocks in broad limits to the application's requirements. The number of binary inputs/outputs can be expanded as required with upgrade modules.

Three serial interfaces enable you to connect peripheral units such as printers and remote displays while connecting up data with the data processing or PLC unit. If necessary, another serial interface can be retrofitted.

There are coupling modules available that can be retrofitted for coupling the most common industrial fieldbus systems (PROFIBUS DeviceNet) – and the Ethernet interface (100 MBaud) is even standard terminal equipment.

The DISOMAT Tersus has 4 integrated USB ports for connecting an external keyboard, a legal-for-trade data storage device or a suitable printer.

With its extremely high resolution and high measuring speed, the measuring technology of the DISOMAT Tersus offers reserves even for difficult weighing applications, for example for scales with low load cell utilization, for scales whose load receptors are located in potentially explosive atmospheres and for fast filling processes. Even extreme temperature demands are no problem for this terminal – the rated temperature range extends from -30 °C ... +60 °C.

The scale specifications (including the calibration data) are stored in the connecting plug of the load cell cable (dongle). If there is a fault, any component in the terminal can be replaced without having to recalibrate or reverify it.

Together with its modular design, this keeps downtimes and repair expenditures on the terminal to a minimum.

The available enclosure designs offer the right "packaging" for almost any environment:

- Desk-top model
- Panel mount unit
- Stainless steel unit
- Field device
- 19" Sub-rack

Operation and Settings

The standard DISOMAT operating languages are German and English..

You can easily load other operating languages into the device via the PC-assisted DISOPLAN parametrizing and configuration program (WINDOWS program) (Italian, Spanish, French, Polish, Czech, Hungarian and Russian are currently available. Andere Sprachen stehen auf Anfrage zur Verfügung).

DISOPLAN also allows the following:

- Graphic configuration of the function blocks
- Configuration of all device parameters
- Adjustment of the device
- Simple formatting of print documents
- Recording of weight curves
- Read out of the complete device configuration (backup)
- Restoring of saved data to a DISOMAT Tersus (Restore) In this way, for example, a replacement device can be prepared in the shortest possible time. Together with the dongle concept, a short down time can be guaranteed if there is a fault while at the same time guaranteeing minimal spare parts stocks.

DISOPLAN either communicates with the DISOMAT

- serially
- via Ethernet or
- via Bluetooth (optional)

All parameters and adjustment data are stored in a persistent storage in the terminal also during power failure. The real-time clock runs for at least 7 more days.

Printing

The variable print pattern formatting allows a free design of the weighing printout.

The print documents can be configured graphically in DISOPLAN (direct preview).

The arrangement of printing elements is defined in a format and you can store 6 different formats.

In addition to the weight data, the following can be printed:

- date and time
- consecutive no.
- balance totals
- the number of balanced weighings
- 5 strings up to 25 digits
- 3 stored texts with 26 characters each

“Packaging”

There is the right “packaging” for every environment. The available housing designs for DISOMAT Tersus:

Desktop device VTG 20450



Type of protection: IP54

Plastic

10 cable inlets including supply connections and load cell cables

Weight: 3.7 kg

Panel mount unit VEG 20450



Protection class: Front IP54 otherwise IP20

Plastic

Panel cutout 138.5 mm x 282 mm

Weight: 3.5 kg

19" Sub-rack VNG 20450



with panel mount unit VEG 20450

Depth 197 mm + 25 mm for connecting cable

Protection class: Front IP54 otherwise IP20

Weight: 7.5 kg

Crane/field device VFG 20450



with panel mount unit VEG 20450
 Sheet steel
 Type of protection: IP54
 Weight 11 kg
 Total depth with front frame: 236 mm

Stainless steel unit VKG 20450

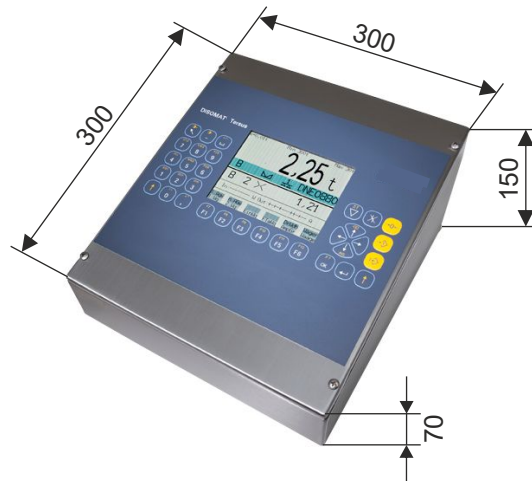


Table-top mounting
 Protection class: IP65
 Weight: 5 kg
 The VKG 20450 can also be mounted on the wall using the bracket supplied.
 (cable outlets below)

Technical Data

Display	Color LCD, 240 x 320 pixels 120 mm x 90 mm Weight display 22 mm digit height
Keyboard	Membrane keyboard with 33 multiple-function keys, 12 of which are configurable function keys
Supply voltage	85 ... 250 VAC, 47 ... 63 Hz 24 VDC (18 ... 36 VDC)
Power consumption	Max. 20 VA
Temperature range	Operating temperature: -30 °C ... +60 °C Able for legal-for-trade: -30 °C ... +40 °C
Electromagnetic ambient conditions	E2 (OIML D11)
Input signal	0 ... 35 mV
Sensitivity	0.4 µV/d
Scan rate	132 measurements/s
Increment value	1,2,5 etc. adjustable from 0.01 ... 5000
Unit	kg, g, t, lb, N, kN
Number of digits	Legal-for-trade operation: max. 8000 d Multi-range scale 3 x 4000 d Multi-interval scale 3 x 4000 d
Taring	Up to 100 % of the weighing range

Zero-setting device	Max. 20 % adjustable Automatischer Automatic zero point tracking 0.5 d/s, can be switched off
Filter	Suppression of mains-synchronous interference signals ≥ 100 dB Common mode rejection ≥ 110 dB Software filter, filter time 0 ... 10 s
Linearity error	< 0.025 ‰
Zero point stability, TK_0	< 0.4 μ V / 10 K (corresponds to 0.012 ‰ / 10 K)
Range stability, TK_c	< 0.03 ‰ / 10 K
Accuracy, F_{comb}	< 0.05 ‰ / 10 K
Date/time:	Real-time clock, back-up time min. 7 days
Load cell impedance	Min. 43 Ω (corresponds to 8 x 350 Ω -WZ or > 20 RT load cells à 4000 Ω)
Load cell supply	12 V alternating voltage supply
Binary inputs	8 inputs, galvanically free, safely insulated, 18 ... 36 VDC Auxiliary voltage 24 V to control the inputs (max. 150 mA)
Binary outputs	12 outputs, electrically isolated, securely insulated (relay), passive Capacity: 24 VDC/VAC max. 500 mA 90 ... 250 VAC max. 300 mA Update rate of the outputs in the "fast comparator" function: 132 x per second
Serial interfaces	3 interfaces for a printer, data processing or secondary display S1 and S2 switchable to: <ul style="list-style-type: none"> • RS232 • RS422/485-4-wire • RS485-2-wire <p>The adjustment can be made per software (no jumpers).</p> <p>S3: RS232 fixed, using Bluetooth as an option</p> <p>Max. transmission rate for all interfaces: 38400 baud</p>
Data processing procedures	Siemens 3964R S5 (RK512) Modbus Standard Schenck DDP 8672 procedure Schenck DDP 8785 poll procedure
Secondary display procedures	DTA DDP8861 DDP8850
Ethernet	10/100BASE-T, full duplex-compatible
USB ports	4 x USB 2.0 Host (Master)

Options

Second measurement input	E.g. for scales with changeover and compound switching
Remote PC hub keyboard	VTT 28000 (USB)
Data input via barcode scanner	On request
Legal-for-trade data memory VMM 20450 for weighing data as a replacement for alibi printers	Memory capacity at least 256 MB for typically 3 million weighings
Expansion card VEA 20451	2 outputs, 0(4) ... 20 mA Load max. 500 Ω Resolution: 10,000 parts Refresh rate: 10/s 2 inputs 0(4) ... 20 mA or 0 ... 10 V Linearity <0.15 ‰ Zero-point stability: <0.25 ‰ / 10 K Range stability: <0.25 ‰ / 10 K Additionally: two binary outputs, open collector 24 VDC, galvanically free, max. 200 mA
Serial option card	1 additional serial interface RS232 / RS485-2 / RS485-4
PROFIBUS fieldbus card	PROFIBUS DP and DP-V1 protocol
PROFINET I/O fieldbus card	PROFINET IO Conformance Class B protocol
DeviceNet fieldbus card	
Bluetooth module (serial interface S3)	Class 1 or Class 2 module, maximum transmission distance 100 (15) m
Radio data transmission	For printing data or data processing connection
I/O extensions	Binary inputs/outputs (max. additional 16 inputs or 16 outputs) Additional analog output
The matching barrier subassemblies for connecting intrinsically safe weighing platforms and operating units in the ATEX 2G category (zone 1)	

Further options and application-specific functional adaptations on request.

