

APACHE parcel DWS500 Static

The “DWS510 Static”: a new, combined volume measurement and weighing system for CEP and logistics centres and a full member of the APACHE product family. A broad range of expansion modules solves nearly every demand for semi-automated dimensioning.

The new APACHE parcel DWS510 Static is a combined volume measurement and weighing system for acquiring complete data (volume, weight and ID) on the consignments of courier, express and package service providers (CEP) as well as in logistics centres. Intended for medium throughputs of up to 500 units of freight per hour, at the press of a button it provides all the relevant data for freight calculations or for creating transport documentation. It consists of a proven laser scanner based dimensioner, a rugged static weighing system and a hand-held reading device for the code information, all integrated in a stable mechanical structure.

Mounted on a linear axle, the scanning head with integrated evaluation moves above an immobile object to measure it. It transmits a fan-shaped laser beam whose time-of-flight is evaluated to within a few millimetres in the sensor head – providing information on the length, height and width of a cuboid item of freight. Objects with a minimum size of 50 x 50 x 50 mm³ can thus be easily and reliably measured. A two sensor head version for dimensioning irregular shaped objects is available as well.

During the volume determination, a weighing system integrated in the load-carrying surface reliably measures the weight of the object. The functional principle of the weighing system is extremely rugged. Thus, for example, a deviation from the horizontal of $\pm 5^\circ$ is permissible – without leading to a spurious measurement. The entire measurement process is triggered by simply scanning the bar code on the object. As soon as the hand-held scanner provides a valid read, the result of the weighing process is called up and the drive of the linear axle started for the volume measurement.



Highly efficient and user-friendly

The well-thought-out and rugged concept of the DWS510 Static allows rapid construction and commissioning. In addition, its modular structure permits easy adaptation to particular customer requirements (see Table “Expansions”). In operation, the measurement system offers high levels of accuracy and availability. Connection to the customer’s database takes place via AKL’s modular APACHE cubidata software module, which collects all the data of a measurement process and combines them to form a data set. This compact controller offers a broad range of interface modules like RS-232, TCP/IP, ODBC, XML to name only a few.

Approved-for-trade calibration assured

The development and design of the DWS510 Static is consistently oriented upon international standards and legislative definitions (OIML, MID, national regulations). Thus, for example, all measurement results are stored in the calibration-enabled data memory before they are made available at the customer interface.

For improved transport planning and invoicing of performance

In the CEP and transport sector, apart from the weight it is, above all, the size of the packages or pallets that determines the number of units that can be loaded onto a truck. Whereby the equation “low weight = small package size or small pallet load” is frequently incorrect. Furthermore, in many segments of distribution logistics, volume is one of the relevant values for invoicing by transport service providers. The Static Analyzer now makes it possible to optimise cargo space utilisation while simultaneously carrying out the invoicing of transport and distribution performance on the basis of the unit numbers, volumes and weights actually transported.

Basic Systems:

Ident	Name	Description
V-PS1	APACHE parcel DWS510 Static	Single Head Device for measuring cuboidal shaped objects.
V-PS2	APACHE parcel DWS520 Static	Dual Head Device for measuring irregular shaped objects.

Expansion Modules:

Ident	Name	Description
ECM10	Prolongation of Measuring Arm (2.0m)	Prolongation of Measuring arm. The prolonged covers a measuring area of 2.000mm at a width of 700mm.
ECM11	Prolongation of Measuring Arm (2.5m)	Prolongation of Measuring arm. The prolonged covers a measuring area of 2.500mm at a width of 700mm.
ECL3	Labelprinter	Thermo-Transfer/Thermo-Direct label printer (mach4, CAB) for direct label generation. No PC or software is needed.
ECD3	RF Barcode Reader	Radio controlled barcode reader including charger and base station.
ECPC2	Industrial PC	Industrial PC embedded in the DWS500 Static device. The APACHE cubidata Softwares can be operated on this computer.

Expansion Modules (Software):

Ident	Name	Description
ECS1/2/3	APACHE cubidata	Software for individual interfacing and secondary data entry.

Expansion Modules (requiring APACHE cubidata Software):

Ident	Name	Description
ECP1	APACHE image	Photorealistic image capture of the measured object. 2.1 MegaPixel Camera including power supply and housing.
ECP2	Additional Camera	Additional camera for APACHE image. 2.1 MegaPixel camera including power supply and housing. (four cameras maximum)
ECM2/3/4	Manual Calliper 150/250/350 mm	Manual calliper including interface for dimensioning of small objects. Length 150mm (ECM2), 250mm (ECM3) and 350mm (ECM4)
ECL1	Labelprinter	Thermo-Transfer/Thermo-Direct label printer (mach4, CAB) for label generation.

Technical Data:

Dimensions Length Width Height	175 cm 85 cm 235 - 265 cm
Measuring Area	700 mm x 1.000 mm. The maximum measuring area is determined by the travel length of the measuring beam.
Measuring Height	Maximum 700 mm
Time of Measurement	Approx. 1.5s /Object
Method of Measurement	One or two infrared scanners (fan scanners) are driven on a linear guide over the freight and load carrier to be measured. Movement is tracked with an incremental encoder. Over the run, the heads perform gapless scanning.
Measurement Uncertainty (MPE)	Length, width of the smallest enclosing cuboid (covering box) 5 mm
	Height of the smallest enclosing cuboid 5 mm
Division	Length = 5 mm, Width = 5 mm, Height = 5 mm
Weighing	Minimum weight: 100g Maximum load: 60kg (optional 30kg) Scale digit 20g (optional 10g)
Limitations/Exclusions Single-Head Device (DWS510) Single- and Dual-Head Device (DWS520)	Cuboidal Objects Only
	Measurement of non-transparent, i.e. opaque, objects only. Measurement of dimensionally stable / form-stable objects only.
Communication	TCP/IP Ethernet 10/100 over RJ45 plug, RS232 / RS422 over D-SUB plug.
Operating panel Display Only IPC based Display	6" Display for visualization of measurement results.
	Analytical computer APACHE cubidata with Windows XP Embedded®

Power connection	230VAC, 4A in terminal compartment; access through switch cabinet socket <u>Standard:</u> Not over protective circuit interrupter	
IT Connection	10/100 Mbit/s <u>Standard:</u> 2 x RJ45 sockets on computer <u>Alternative:</u> Patch socket in switch cabinet <u>Alternative:</u> RJ45 socket (CAT.5) in the side wall <u>Alternative:</u> WLAN 802.11a-g	
Operating Conditions	Operating Temperature:	0° C to +40° C (+32° F to +104° F)
	Humidity:	maximum 85% non-condensing
MTBF	Mean time between failures of the laser probes is 40,000 h according to the manufacturer's specifications. The service life of the laser diode has been taken into account in this value	
Type Approval	OIML R:129 OIML R:76 MID009	
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A cooperation with:

