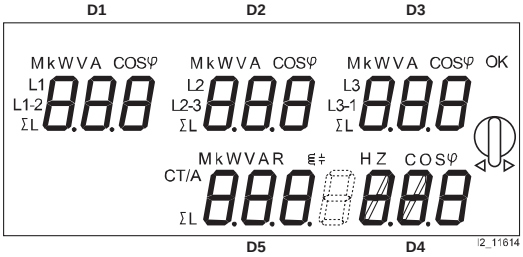
Display

The multimeters have a covered, brightly lit LED display. The measured values are indicated on an 11-mm high, green, 7-segment LED, the physical units are indicated by orange text abbreviations. Both colors are easier to recognize than the red LEDs used for conventional displays. Capacitive loads are automatically indicated by a capacitor symbol, inductive loads by a coil symbol – also in orange.



Matrix selection

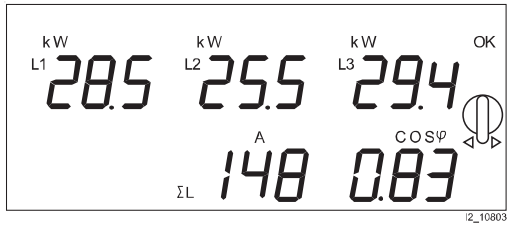
Conventional measuring devices display voltages, currents, powers, etc. in a rigid sequence on several "screens". These multimeters allow users to define their own standard for measuring variables per display field, so that they can be implemented far more universally and flexibly.

A special feature is the analysis of the different loads on the phases. Phase displacement, unsymmetrical or unbalanced loads can cause partial overloads. These multimeters offer a range of different options for combining and assessing measured values.

The display fields are selected using rotary switches and the desired indications confirmed with OK. By then making the horizontal selection e.g. W V A or p.f, and the vertical selection, e.g. L1 L1 L2 L, users can define the desired measured variables for this display field.

The vertical data on the display can be assigned to any measured value in the horizontal data. The letters M(ega) and k(ilo) are automatically assigned according to measuring range, i.e. measured value, e.g. kW or MW. Capacitive loads are automatically indicated by a capacitor, inductive loads by a coil.

The following diagram shows an example of what your matrix selection might look like.



Technical specifications

Data acc. to DIN 43751-1, DIN 43751-2 and EN 61010-1			7KT1 300	7KT1 301	7KT1 302
Supply					
• Rated control supply voltage U_c		AC V	230		
• Operating range		x U_c	0.8 ... 1.2		
• Rated frequency		Hz	50		
• Frequency range		Hz	45 ... 65		
• Rated power dissipation P_v		VA	≤ 10		
Overload capability					
• Voltage	continuous: Phase/Phase 1 second: Phase/Phase continuous: Phase/N 1 second: Phase/N	V V V V	480 800 276 460		
• Current	continuous 0.5 s 10 ms	A A A	76 -- 1000	6 110 --	
Measuring inputs					
• Connection type			Direct	Transformer /5 A	
• Voltage U_e	Phase/Phase Phase/N	V V	400 230		
• Operating range voltage	Phase/Phase Phase/N	V V	87 ... 400 50 ... 230		
• Current I_e		A	63	5	
• Operating range current		A	0.1 ... 63	0,01 ... 5	
• Transformer current	primary current of transformer smallest input step	A A	-- --	5 ... 5000 5	
• Frequency		Hz	50		
• Frequency range		Hz	45 ... 65		

7KT1 30 Multimeters

Data acc. to DIN 43751-1, DIN 43751-2 and EN 61010-1			7KT1 300	7KT1 301	7KT1 302
Display					
• Connection errors	Inverted phases		Err		
• Voltage: 3 displays, 3-digit	Delta L1–L2, L2–L3, L3–L1 Star L1/N – L2/N – L3/N Voltage > 480/276 V Voltage < 87/50 V	V V	87 ... 480 50 ... 276 H H H – – –		
• Current: 3 displays, 3-digit	L1 – L2 – L3 at current > 76 A or (1.2 or 6 A) x transformer conversion ratio		0.3 ... 76 A H H H	0.1 A ... 1.2 kA	
	for current < 0.1 A or 0.01 A x transformer conversion ratio		O O O		
• Frequency 1 display, 3-digit	L	Hz	45.0 ... 65.0		
• Active power: 3 displays, 3-digit or 1 display, 3 of 7 digits	L1 – L2 – L3; L display with floating decimal point	W, kW or MW	0 ... 999		
• Reactive power: 1 display, 3-digit	L, with capacitive or inductive indication; display with floating decimal point	var, kvar or Mvar	0 ... 999		
• Apparent power: 3 displays, 3-digit or 1 display, 3-digit	L1 – L2 – L3; L display with floating decimal point	W, kW or MW	0 ... 999		
• p.f.: 3 displays, 3-digit or 1 display, 3-digit	L1 – L2 – L3; L display with floating decimal point		0.01 ... 1.00		
• Transformer primary current	only if set	A	--	5 ... 5000	
• Transformer secondary current	only if set	A	--	5	
• Display period		/s	2		
• Storage of setting			EEPROM		
Measuring accuracy					
• Voltage		%	2		
• Current		%	2		
• Power output		%	4		
• p.f.		%	4		
• Frequency		%	2		
Safety acc. to EN 61010-1					
• Pollution severity			2		
• Overvoltage category			II		
• Operating voltage category		V	600		
• Clearances		mm	≥ 3.0		
• Creepage distances	in the device on printed boards (not installed)	mm mm	≥ 4.3 ≥ 3.0		
• Test surge voltage	1.2/50 µs	kV	4		
• Test voltage	50 Hz, 1 min	kV	2.2		
Terminals					
• Main current paths	± screw (Pozidriv)		2	1	
• Supply terminals	blade for slotted screw	mm × mm	4 × 2.5		
• Conductor cross-sections, main current paths	rigid, maximum	mm^2	1 × 25 or 2 × 16	1 × 6 or 2 × 4	
	rigid, minimum	mm^2	1 × 1.5		
• Conductor cross-sections for supply terminals	rigid, maximum	mm^2	1 × 2.5 or 2 × 1.5		
	flexible with sleeve, min.	mm^2	1 × 0.75		
Ambient conditions					
• Temperature		°C	0 ... +55		
• Relative humidity		%	≤ 80		
• Vibrations	sinus amplitude at 50 Hz	mm	±0.25		
• Degree of protection	acc. to IEC/EN 60529		IP20		
- Front panel, 96 mm × 96 mm			--		IP54
• Safety class	acc. to EN 61010-1		II		