

- ◆ Metering instruments for voltage, current, frequency, power factor and watt readouts, also including a variety of programmable protections features available on version with relay output
- ◆ Single and multi function metering devices
- ◆ Monitor and measure of 47, 51 and 251 electric parameters
- ◆ Single and three-phase connection
- ◆ Ideal for co-generation energy systems, stand-by generating sets or on-board machine tools
- ◆ High measurement accuracy
- ◆ Totally programmable digital outputs
- ◆ RS485 serial port used with Modbus® RTU or ASCII protocols.



### Digital metering instruments

Single-phase modular instruments, without or complete with output relay	13- 2
Three-phase modular instruments, without or complete with output relay	13- 4

### Digital multimeters

51 measurements - flush-mount three-phase type	13- 6
47 measurements - flush-mount and modular types	13- 7
251 measurements - flush-mount and modular types	13- 8



## For single phase systems Modular type



DMK 80



DMK 80 R1



DMK 81



DMK 81 R1



DMK 82



DMK 82



DMK 83



DMK 83 R1





DMK 84



DMK 84 R1



Description	Catalog number	Price
Digital control, without programmable relay output.		
Voltmeter - 3 viewed measurements; 15-660VAC readout and 1.00-500.00 PT ratio programming ranges	<b>DMK 80 A127</b>	171.00
Ammeter - 3 viewed measurements; 0.05-5.75A readout 5-10,000 CT primary programming ranges	<b>DMK 81 A127</b>	171.00
Voltmeter or ammeter - 3 viewed measurements; ranges: 15-660VAC or 0.05-5.75A readout and 1.00-500.00 PT ratio or OFF/5-10,000 CT primary programming ranges	<b>DMK 82 A127</b> 	189.00
Frequency meter - 3 viewed measurements; 15-65Hz readout range, $\pm 1$ digit accuracy; 15-660VAC voltage input range	<b>DMK 83 A127</b>	237.00
Cosphi meter - 2 viewed measurements; $\cos\phi$ readout error: $\pm 0.5^\circ \pm 1$ digit, measured in 4 quadrants.	<b>DMK 84 A127</b>	237.00
Digital control, complete with programmable relay output.		
Voltmeter - 3 viewed measurements; 15-660VAC readout and 1.00-500.00 PT ratio programming ranges	<b>DMK 80 R1A127</b>	186.00
Ammeter - 3 viewed measurements; 0.05-5.75A readout 5-10,000 CT primary programming ranges	<b>DMK 81 R1 A127</b>	186.00
Frequency meter - 3 viewed measurements; 15-65Hz readout range, $\pm 1$ digit accuracy; 15-660VAC voltage input range	<b>DMK 83 R1 A127</b>	251.00
Cosphi meter - 2 viewed measurements; $\cos\phi$ readout error: $\pm 0.5^\circ \pm 1$ digit, measured in 4 quadrants.	<b>DMK 84 R1 A127</b>	251.00

 The DMK 82 can operate as a voltmeter or ammeter. It is duly equipped with two front plates (V and A) which must be fitted by the user depending on which instrument is required and on the wiring scheme used.

### General characteristics

The modular digital metering instruments of the DMK series provide excellent stability of readouts due to a very high sampling rate.

The measurements in TRMS provide for a correct operation, even in presence of voltage and current conditions with high harmonic content. All models are able to store and display maximum (HIGH) and minimum (LOW) values of the readouts.

The DMK...R1 types also come equipped with one relay output, configurable with a number of protection and configurable functions, as stated below.

They can be used directly in low voltage (<600V) systems, and can be programmed for use with PTs (Potential Transformers) and used in Medium Voltage systems as well.





An effective solution to replace traditional analog instruments, such as voltmeter and ammeter complete with relative selector switches, provides for extra panel space.

### Operating characteristics

#### FOR ALL TYPES


- Auxiliary power: 110-127VAC -15% +10% standard; on request: 24VAC, 220-240VAC, 380-415VAC
- Rated frequency: 50-60Hz
- Frequency range: 45-66Hz
- TRMS measure
- 0.25% full scale accuracy  $\pm 1$  digit for voltage readouts
- 0.5% full scale accuracy  $\pm 1$  digit for current readouts
- Memory storage of maximum and minimum values
- Measure selection by function key
- Measure identification by LED
- 3 module housing
- Ambient conditions:
  - Operating temperature:  $-4...+140^\circ\text{F}$  ( $-20...+60^\circ\text{C}$ )
  - Storage temperature:  $-22...+176^\circ\text{F}$  ( $-30...+80^\circ\text{C}$ )
  - Degree of protection: IP40 on front; IP20 on terminals.

### MAIN PROTECTION AND CONFIGURABLE FUNCTIONS OF RELAY OUTPUT

- One relay output with one SPDT contact, rated B300 / 8A 250VAC AC1
- DMK 80 R1 - Voltmeter
  - Voltage loss: OFF/5-85%
  - Maximum voltage: OFF/102-120%
  - Minimum voltage: OFF/70-90%
  - Time delay for maximum or minimum voltage and voltage: 0.0-900.0s 
- DMK 81 R1 - Ammeter
  - Current loss: OFF/2-100%
  - Maximum current: OFF/102-200%
  - Maximum current instantaneous tripping: OFF/110-600%
  - Minimum current: OFF/5-98%
  - Time delay for maximum or minimum current or current loss: 0.0-900.0s 
- DMK 83 R1 - Frequency meter
  - Maximum frequency: OFF/101-110%
  - Minimum frequency: OFF/90-99%
  - Time delay for maximum or minimum frequency: 0.0-900.0s 
- DMK 84 R1 - Cosphi meter
  - Maximum  $\cos\phi$  threshold: OFF/0.1 inductive-0.1 capacitive
  - Minimum  $\cos\phi$  threshold: OFF/0.1 inductive-0.1 capacitive
  - Maximum P.F. (Power Factor) threshold: OFF/0.10-1.00
  - Minimum P.F. (Power Factor) threshold: OFF/0.10-1.00
  - Time delay for maximum or minimum threshold: 1-9,000s 

### Certifications and compliance

UL listing for USA and Canada pending completion  
Compliant with standards: IEC IEC/EN 61010-1, IEC/EN 61000-6-2, IEC/EN 61000-6-3.

 Independent time delay, configurable for each of the mentioned functions.

## For single phase systems Flush-mount type



DMK 00

Description	Catalog number <sup>①</sup>	Price
Digital control, without programmable relay output.		
Voltmeter - 3 viewed measurements; 15-660VAC readout and 1.00-500.00 PT ratio programming ranges	DMK 00 A127	171.00
Ammeter - 3 viewed measurements; 0.05-5.75A readout 5-10,000 CT primary programming ranges	DMK 01 A127	171.00
Voltmeter or ammeter - 3 viewed measurements; ranges: 15-660VAC or 0.05-5.75A readout and 1.00-500.00 PT ratio or OFF/5-10,000 CT primary programming ranges	DMK 02 A127 <sup>②</sup>	189.00
Frequency meter - 3 viewed measurements; 45-66Hz readout range, $\pm 1$ digit accuracy; 15-660VAC voltage input range	DMK 03 A127	237.00
Cosphi meter - 2 viewed measurements; $\cos\phi$ readout error: $\pm 0.5^\circ \pm 1$ digit, measured in 4 quadrants.	DMK 04 A127	237.00
Digital control, complete with programmable relay output.		
Voltmeter - 3 viewed measurements; 15-660VAC readout and 1.00-500.00 PT ratio programming ranges	DMK 00 R1 A127	186.00
Ammeter - 3 viewed measurements; 0.05-5.75A readout 5-10,000 CT primary programming ranges	DMK 01 R1 A127	186.00
Frequency meter - 3 viewed measurements; 45-66Hz readout range, $\pm 1$ digit accuracy; 15-660VAC voltage input range	DMK 03 R1 A127	251.00
Cosphi meter - 2 viewed measurements; $\cos\phi$ readout error: $\pm 0.5^\circ \pm 1$ digit, measured in 4 quadrants.	DMK 04 R1 A127	251.00

<sup>①</sup> Coming in 2007, contact Sales & Technical Support for availability.

<sup>②</sup> The DMK 02 can operate as a voltmeter or ammeter. It is duly equipped with two front plates (V and A) which must be fitted by the user depending on which instrument is required and on the wiring scheme used.

### General characteristics

The flush-mount digital metering instruments of the DMK series provide excellent stability of readouts due to a very high sampling rate.

The measurements in TRMS provide for a correct operation, even in presence of voltage and current conditions with high harmonic content. All models are able to store and display maximum (HIGH) and minimum (LOW) values of the readouts.

The DMK...R1 types also come equipped with one relay output, configurable with a number of protection and configurable functions, as stated below.

They can be used directly in low voltage (<600V) systems, and can be programmed for use with PTs (Potential Transformers) and used in Medium Voltage systems as well.

An effective solution to replace traditional analog instruments, such as voltmeter and ammeter complete with relative selector switches, provides for extra panel space.

### Operating characteristics

FOR ALL TYPES

- Auxiliary power: 110-127VAC -15% +10% standard; on request: 24VAC, 220-240VAC, 380-415VAC
- Rated frequency: 50-60Hz
- Frequency range: 45-66Hz
- TRMS measure
- 0.25% full scale accuracy  $\pm 1$  digit for voltage readouts
- 0.5% full scale accuracy  $\pm 1$  digit for current readouts
- Memory storage of maximum and minimum values
- Measure selection by function key
- Measure identification by LED
- Ambient conditions:
  - Operating temperature: -4...+140°F (-20...+60°C)
  - Storage temperature: -22...+176°F (-30...+80°C)
  - Degree of protection: IP40 on front.

### MAIN PROTECTION AND CONFIGURABLE FUNCTIONS OF RELAY OUTPUT

- One relay output with one SPDT contact, rated B300 / 8A 250VAC AC1
- DMK 00 R1 - Voltmeter
  - Voltage loss: OFF/5-85%
  - Maximum voltage: OFF/102-120%
  - Minimum voltage: OFF/70-90%
  - Time delay for maximum or minimum voltage and voltage: 0.0-900.0s <sup>②</sup>.
- DMK 01 R1 - Ammeter
  - Current loss: OFF/2-100%
  - Maximum current: OFF/102-200%
  - Maximum current instantaneous tripping: OFF/110-600%
  - Minimum current: OFF/5-98%
  - Time delay for maximum or minimum current or current loss: 0.0-900.0s <sup>②</sup>.
- DMK 03 R1 - Frequency meter
  - Maximum frequency: OFF/101-110%
  - Minimum frequency: OFF/90-99%
  - Time delay for maximum or minimum frequency: 0.0-900.0s <sup>②</sup>.
- DMK 04 R1 - Cosphi meter
  - Maximum  $\cos\phi$  threshold: OFF/0.1 inductive-0.1 capacitive
  - Minimum  $\cos\phi$  threshold: OFF/0.1 inductive-0.1 capacitive
  - Maximum P.F. (Power Factor) threshold: OFF/0.10-1.00
  - Minimum P.F. (Power Factor) threshold: OFF/0.10-1.00
  - Time delay for maximum or minimum threshold: 1-9,000s <sup>②</sup>.

### Certifications and compliance

UL listing for USA and Canada pending completion  
Compliant with standards: IEC IEC/EN 61010-1, IEC/EN 61000-6-2, IEC/EN 61000-6-3.

<sup>②</sup> Independent time delay, configurable for each of the mentioned functions.

## For three phase systems Modular type



DMK 70



DMK 70 R1



DMK 71



DMK 71 R1



DMK 75



DMK 75 R1



Description	Catalog number	Price
		\$ each
Digital control, without programmable relay output.		
Voltmeter - 18 viewed measurements; 15-660VAC L-L (10-382V L-N) readout and 1.00-500.00 PT ratio programming ranges	DMK 70 A127	200.00
Ammeter - 9 viewed measurements; 0.05-5.75A readout 5-10,000 CT primary programming ranges	DMK 71 A127	200.00
Combined voltmeter, ammeter and wattmeter - 39 viewed measurements; 35-660VAC L-L (20-382V L-N) and 0.05-5.75A readout, 1.00-500.00 PT ratio and 5-10,000 CT primary programming ranges	DMK 75 A127	314.00
Digital control, complete with programmable relay output.		
Voltmeter - 3 viewed measurements; 15-660VAC L-L (10-382V L-N) readout and 1.00-500.00 PT ratio programming ranges	DMK 70 R1A127	214.00
Ammeter - 3 viewed measurements; 0.05-5.75A readout 5-10,000 CT primary programming ranges	DMK 71 R1 A127	214.00
Combined voltmeter, ammeter and wattmeter - 39 viewed measurements; 35-660VAC L-L (20-382V L-N) and 0.05-5.75A readout, 1.00-500.00 PT ratio and 5-10,000 CT primary programming ranges	DMK 75 R1 A127	328.00

### General characteristics

The modular digital metering instruments of the DMK series provide excellent stability of readouts due to a very high sampling rate.

The measurements in TRMS provide for a correct operation, even in presence of voltage and current conditions with high harmonic content. All models are able to store and display maximum (HIGH) and minimum (LOW) values of the readouts.

The DMK...R1 types also come equipped with one relay output, configurable with a number of protection and configurable functions, as stated below. They can be used directly in low voltage (<600V) systems, and can be programmed for use with PTs (Potential Transformers) and used in Medium Voltage systems as well. An effective solution to replace traditional analog instruments, such as voltmeter and ammeter complete with relative selector switches, provides for extra panel space.

### Operating characteristics

#### FOR ALL TYPES

- Auxiliary power: 110-127VAC -15% +10% standard; on request: 24VAC, 48VAC, 220-240VAC, 380-415VAC
- Rated frequency: 50-60Hz
- Frequency range: 45-66Hz
- TRMS measure
- 0.25% full scale accuracy  $\pm 1$  digit for voltage readouts
- 0.5% full scale accuracy  $\pm 1$  digit for current readouts
- Memory storage of maximum and minimum values
- Measure selection by function key
- Measure identification by LED
- 3 module housing
- Ambient conditions:
  - Operating temperature: -4...+140°F (-20...+60°C)
  - Storage temperature: -22...+176°F (-30...+80°C)
  - Degree of protection: IP40 on front; IP20 on terminals.

### MAIN PROTECTION AND CONFIGURABLE FUNCTIONS OF RELAY OUTPUT

- One relay output with one SPDT contact, rated B300 / 8A 250VAC AC1
- DMK 70 R1 - Voltmeter
  - Phase loss: OFF/5-85%
  - Maximum voltage: OFF/102-120%
  - Minimum voltage: OFF/70-98%
  - Asymmetry: OFF/2-20%
  - Phase sequence: OFF/1/2
  - Maximum frequency: OFF/101-110%
  - Minimum frequency: OFF/90-99%
  - Time delay for maximum or minimum voltage, phase loss, asymmetry, minimum or maximum frequency: 0.5-900.0s ①
- DMK 71 R1 - Ammeter
  - Current loss: OFF/2-100%
  - Maximum current: OFF/102-200%
  - Maximum current instantaneous tripping: OFF/110-600%
  - Minimum current: OFF/5-98%
  - Asymmetry: OFF/2-20%
  - Time delay for maximum or minimum current, current loss or asymmetry: 0.5-900.0s ①
- DMK 75 R1 - Combined voltmeter, ammeter, wattmeter
  - For voltage measurements:
    - Phase loss: OFF/5-85%
    - Maximum voltage: OFF/102-120%
    - Minimum voltage: OFF/70-98%
    - Asymmetry: OFF/2-20%
    - Phase sequence: OFF/1/2
  - For current measurements:
    - Current loss: OFF/5-86%
    - Maximum current: OFF/102-200%
    - Maximum current instantaneous tripping: OFF/110-600%
    - Minimum current: OFF/5-98%
    - Asymmetry: OFF/2-25%
  - For power measurements:
    - Rated power: 1-10,000
    - Maximum power: OFF/101-200%
    - Maximum power instantaneous tripping: OFF/110-600%
    - Minimum power: OFF/10-99%
  - For frequency control:
    - Maximum frequency: OFF/101-110%
    - Minimum frequency: OFF/90-99%
    - Time delay for maximum or minimum voltage or current, current or phase loss, asymmetry, maximum or minimum power: 0.5-900.0s ①

### Certifications and compliance

UL listing for USA and Canada pending completion  
Compliant with standards: IEC/EN 61010-1,  
IEC/EN 61000-6-2, IEC/EN 61000-6-3.

① Independent time delay, configurable for each of the mentioned functions.

## For three phase systems Flush-mount type



DMK 15

Description	Catalog number <sup>①</sup>	Price
Digital control, without programmable relay output.		
Voltmeter - 18 viewed measurements; 15-660VAC L-L (10-382V L-N) readout and 1.00-500.00 PT ratio programming ranges	<b>DMK 10 A127</b>	200.00
Ammeter - 9 viewed measurements; 0.05-5.75A readout 5-10,000 CT primary programming ranges	<b>DMK 11 A127</b>	200.00
Combined voltmeter, ammeter and wattmeter - 39 viewed measurements; 15-660VAC L-L (20-382V L-N) and 0.05-5.75A readout, 1.00-500.00 PT ratio and 5-10,000 CT primary programming ranges	<b>DMK 15 A127</b>	314.00
Digital control, complete with programmable relay output.		
Voltmeter - 3 viewed measurements; 15-660VAC L-L (10-382V L-N) readout and 1.00-500.00 PT ratio programming ranges	<b>DMK 10 R1 A127</b>	214.00
Ammeter - 3 viewed measurements; 0.05-5.75A readout 5-10,000 CT primary programming ranges	<b>DMK 11 R1 A127</b>	214.00
Combined voltmeter, ammeter and wattmeter - 39 viewed measurements; 15-660VAC L-L (20-382V L-N) and 0.05-5.75A readout, 1.00-500.00 PT ratio and 5-10,000 CT primary programming ranges	<b>DMK 15 R1 A127</b>	328.00

① Coming in 2007, contact Sales & Technical Support for availability.

### General characteristics

The flush-mount digital metering instruments of the DMK series provide excellent stability of readouts due to a very high sampling rate.

The measurements in TRMS provide for a correct operation, even in presence of voltage and current conditions with high harmonic content. All models are able to store and display maximum (HIGH) and minimum (LOW) values of the readouts.

The DMK...R1 types also come equipped with one relay output, configurable with a number of protection and configurable functions, as stated below. They can be used directly in low voltage (<600V) systems, and can be programmed for use with PTs (Potential Transformers) and used in Medium Voltage systems as well. An effective solution to replace traditional analog instruments, such as voltmeter and ammeter complete with relative selector switches, provides for extra panel space.

### Operating characteristics

FOR ALL TYPES

- Auxiliary control power: 110-127VAC -15% +10% standard; on request: 24VAC, 48VAC, 220-240VAC, 380-415VAC
- Rated frequency: 50-60Hz
- Frequency range: 45-66Hz
- TRMS measure
- 0.25% full scale accuracy ±1 digit for voltage readouts
- 0.5% full scale accuracy ±1 digit for current readouts
- Memory storage of maximum and minimum values
- Measure selection by function key
- Measure identification by LED
- Ambient conditions:
  - Operating temperature: -4...+140°F (-20...+60°C)
  - Storage temperature: -22...+176°F (-30...+80°C)
  - Degree of protection: IP40 on front.

### MAIN PROTECTION AND CONFIGURABLE FUNCTIONS OF RELAY OUTPUT

- One relay output with one SPDT contact, rated B300 / 8A 250VAC AC1
- DMK 10 R1 - Voltmeter
  - Phase loss: OFF/5-85%
  - Maximum voltage: OFF/102-120%
  - Minimum voltage: OFF/70-98%
  - Asymmetry: OFF/2-20%
  - Phase sequence: OFF/1/2
  - Maximum frequency: OFF/101-110%
  - Minimum frequency: OFF/90-99%
  - Time delay for maximum or minimum voltage, phase loss, asymmetry, minimum or maximum frequency: 0.5-900.0s Ⓜ
- DMK 11 R1 - Ammeter
  - Current loss: OFF/2-100%
  - Maximum current: OFF/102-200%
  - Maximum current instantaneous tripping: OFF/110-600%
  - Minimum current: OFF/5-98%
  - Asymmetry: OFF/2-20%
  - Time delay for maximum or minimum current, current loss or asymmetry: 0.5-900.0s Ⓜ
- DMK 15 R1 - Combined voltmeter, ammeter, wattmeter
  - For voltage measurements:
    - Phase loss: OFF/5-85%
    - Maximum voltage: OFF/102-120%
    - Minimum voltage: OFF/70-98%
    - Asymmetry: OFF/2-20%
    - Phase sequence: OFF/1/2
  - For current measurements:
    - Current loss: OFF/5-86%
    - Maximum current: OFF/102-200%
    - Maximum current instantaneous tripping: OFF/110-600%
    - Minimum current: OFF/5-98%
    - Asymmetry: OFF/2-25%
  - For power measurements:
    - Rated power: 1-10,000
    - Maximum power: OFF/101-200%
    - Maximum power instantaneous tripping: OFF/110-600%
    - Minimum power: OFF/10-99%
  - For frequency control:
    - Maximum frequency: OFF/101-110%
    - Minimum frequency: OFF/90-99%
    - Time delay for maximum or minimum voltage or current, current or phase loss, asymmetry, maximum or minimum power: 0.5-900.0s Ⓜ

### Certifications and compliance


UL listing for USA and Canada pending completion  
Compliant with standards: IEC/EN 61010-1, IEC/EN 61000-6-2, IEC/EN 61000-6-3.


Ⓜ Independent time delay, configurable for each of the mentioned functions.

## Digital multimeter 51 measurements



DMK 16

Description	Catalog number	Price
Multimeter - 51 viewed measurements; 110-127VAC, 7-segment 4-digit display.	<b>DMK 16 A127</b> 	378.00

 Coming in 2007; contact Sales & Technical support for availability.

### General characteristics

This flush-mount digital multimeter provides excellent stability and viewing of readouts even in presence of critical operating conditions, such as voltages and currents with high harmonic content and variable frequency. It is a cost-effective solution to replace traditional analog instruments.

It is capable of storing and displaying 23 different maximum (HIGH) and minimum (LOW) measurements, can be used directly in low voltage (<600V) systems, and can be programmed for use with PTs (Potential Transformers) and used in Medium Voltage systems as well.

Views 51 electrical parameters:

- Voltage: phase, line and system values
- Current: phase values
- Power: Phase and total apparent, active and reactive values
- P.F.: Power Factor per phase
- Frequency
- Energy: active (kWh) and reactive (kvarh) values
- HIGH/LOW: instantaneous minimum and maximum values of each phase voltage, current, and frequency, total reactive and active power values
- Hour counter.

### Operating characteristics

- Auxiliary power: 110-127VAC -15% +10% standard; on request: 220-240VAC.
- Rated frequency: 50-60Hz
- Frequency range: 45-66Hz
- Voltage measure range: 35-660VAC L-L (20-382V L-N)
- Current measure range: 0.05-5.75A
- Phase and total import-export
- PT ratio programming range: 1.00-500.0
- CT primary programming range: 5-10,000A
- One relay output with one N/O contact, rated B300 / 8A 250VAC AC1
- Voltage measurements:
  - Phase loss: OFF/5-85%
  - Maximum voltage: OFF/102-120%
  - Minimum voltage: OFF/70-98%
  - Asymmetry: OFF/2-20%
  - Phase sequence: OFF/1/2
- Current measurements:
  - Current loss: OFF/5-86%
  - Maximum current: OFF/102-200%
  - Maximum current instantaneous tripping: OFF/110-600%
  - Minimum current: OFF/5-98%
  - Asymmetry: OFF/2-25%
- Power measurements:
  - Rated power: 1-10,000
  - Maximum power: OFF/101-200%
  - Maximum power instantaneous tripping: OFF/110-600%
  - Minimum power: OFF/10-99%
- Frequency control:
  - Maximum frequency: OFF/101-110%
  - Minimum frequency: OFF/90-99%
- Independent time delay for maximum or minimum voltage or current, current or phase loss, asymmetry, maximum or minimum power: 0.5-900.0s, configurable for each of these functions.
- TRMS measure
- Accuracy
  - Voltage readouts: 0.25% full scale values  $\pm 1$  digit
  - Current readouts: 0.5% full scale values  $\pm 1$  digit
  - Power readouts:  $\pm 1\%$  full scale values  $\pm 1$  digit with 0.7-1 cosphi range
- Memory storage of maximum and minimum values
- Measure selection by function key
- Measure identification by LED
- 1.9x3.8in (48x96mm) housing
- Ambient conditions:
  - Operating temperature: -4...+140°F (-20...+60°C)
  - Storage temperature: -22...+176°F (-30...+80°C)
  - Degree of protection: IP41 on front.

### Certifications and compliance

UL listing for USA and Canada pending completion  
Compliant with standards: IEC/EN 61010-1, IEC/EN 61000-6-2, IEC/EN 61000-6-3.

## Digital multimeters 47 measurements



DMK 50 **moduLo**



DMK 20

Characteristics	Catalog number	Price
		\$ each
Modular housing.		
Basic version, 110-127VAC	<b>DMK 50 120</b>	447.00
Version with energy meters included, 110-127VAC	<b>DMK 51 120</b>	494.00
Version with energy meters and RS485 port included, 110-127VAC	<b>DMK 52 120</b>	626.00
Flush-mount housing.		
Basic version, 110-127VAC	<b>DMK 20 120</b>	447.00
Version with energy meters included, 110-127VAC	<b>DMK 21 120</b>	494.00
Version with energy meters and RS485 port included, 110-127VAC	<b>DMK 22 120</b>	626.00
Version for generating set duty, 12-24VDC	<b>DMK 25</b>	525.00
Version for generating set duty with maximum current demand, voltage and current imbalance, 12-24VDC	<b>DMK 26</b>	598.00
Accessories.		
Remote supervision software for PC ↔ DMK 22/52, with Modbus®-RTU and ASCII protocols, complete with 51 C4 connecting cable	<b>DMK SW</b>	971.00
RS232/RS485 converter drive, opto-isolated, 110-120VAC	<b>4 PX1 115</b>	661.00
PC ↔ PX1 drive connecting cable, 6ft (1.8m) long	<b>51 C4</b>	65.00
IP54 front protection cover for DMK20/21/22/25/26 types	<b>31 PA96X96</b>	34.00

### General characteristics

DMK 2... and DMK 5... multimeters monitor and view reliable readings of electric parameters, even in presence of critical operating conditions, such as voltages and currents with high harmonic content and variable frequency. The total and partial hour counter feature provides an interesting feature for electric panels of emergency generating sets.

The diversified and accurate measure give the multimeters valuable technical and cost effective advantages respect to traditional analog instrumentation.

The digital multimeters DMK 2... and DMK 5... view 47 electric parameters:

- Voltage: phase, line and system values
- Battery voltage: 9-38VDC for DMK 25 and DMK 26 only
- Current: phase values
- Power: apparent phase, active and reactive values
- P.F.: power factor per phase
- Frequency of measured voltage value
- HIGH/LOW: instantaneous minimum and maximum values of each phase voltage and current, total active power ( $\Sigma W$ ), total reactive power ( $\Sigma var$ ) and total apparent power ( $\Sigma VA$ ) values
- Total hours: non-volatile clearable log for DMK 20, DMK 25, DMK 26 and DMK 50 only
- Partial hours: non-volatile configurable log for DMK 20, DMK 25, DMK 26 and DMK 50 only.

### Operational characteristics

For DMK20 and DMK50:

- Auxiliary power: 110-127VAC standard; 208-240VAC on request
- Operating limits: 90-152VAC for standard supply

For DMK 21, DMK 22, DMK51 and DMK 52

- Auxiliary supply: 110-127VAC standard; 208-240VAC on request
- Operating limits: 94-140VAC for standard supply

For DMK 25 and DMK26:

- Auxiliary supply: 12-24VDC standard
- Operating limits: 9-32VDC

For all types:

- Voltage measure range: 60-830VAC L-L
- Current measure range: 0.05-6A
- Frequency range: 45-65Hz
- CT ratio programming range: 1.0-2,000
- Accuracy
  - Voltage/current readouts:  $0.5 \pm 0.25\%$  full scale  $\pm 1$  digit
  - Energy class 2 (IEC/EN 61036; IEC/EN 61268)
- Non-volatile total and partial hour counter with separate clearing; used as maintenance interval with display alarm in DMK 20, DMK 25, DMK 26 and DMK 50 only
- Partial hour counter used as maintenance interval with display alarm
- HIGH and LOW value functions to read and log instantaneous voltage, current and power values
- Delayed automatic resetting of default measures
- Averaging function to slow down repetitive fluctuations to obtain more stable readouts
- Current connection in ARON configuration via 2 current transformers (CTs) only
- Single, two, three phase with or without neutral and balanced three-phase connection
- TRMS measurements up to 22° harmonic order
- Housing:
  - flush mount 3.8x3.8in (96x96mm) for DMK 2... modular for DMK 5...
- Degree of protection: IP54 on front for DMK 2... IP41 on front for DMK 5... IP 20 at rear.

### Certifications and compliance

UL listed for USA and Canada, File E93601.

Compliant with standards: IEC/EN 61010-1, IEC/EN 61000-6-3, IEC/EN 61000-6-2, CISPR11/EN 55011.

## Digital multimeters 251 measurements



DMK 60




DMK 30



DMK 40

Characteristics	Catalog number	Price
		\$ each
Modular housing.		
Basic version	<b>DMK 60</b>	881.00
Version with 2 programmable outputs of which 1 relay and 1 static type	<b>DMK 61</b>	1066.00
Version with RS485 port and 2 programmable outputs of which 1 relay and 1 static type	<b>DMK 62</b>	1235.00
Flush-mount housing.		
Basic version	<b>DMK 30</b>	881.00
Version with 2 programmable outputs of which 1 relay and 1 static type	<b>DMK 31</b>	1066.00
Version with RS485 port and 2 programmable outputs of which 1 relay and 1 static type	<b>DMK 32</b>	1235.00
Version with data-logger, RS232 and RS485 opto-isolated ports	<b>DMK 40</b>	2503.00
Accessories.		
Remote supervision software for PC ↔ DMK 32/62, with Modbus®-RTU and ASCII protocols, complete with 51 C4 connecting cable	<b>DMK SW</b>	971.00
Data-logger software for PC ↔ DMK 40 complete with 51 C2 connecting cable and remote supervision software DMK SW and 51 C4 connecting cable	<b>DMK SW 10</b>	1100.00
RS232/RS485 converter drive, opto-isolated, 110-120VAC	<b>4 PX1 115</b>	661.00
PC ↔ DMK 40 connecting cable, 6ft (1.8m) long	<b>51 C2</b>	60.00
PC ↔ PX1 drive connecting cable, 6ft (1.8m) long	<b>51 C4</b>	65.00
DMK 40 ↔ analog modem connecting cable, 6ft (1.8m) long	<b>51 C5</b>	69.00
Analog modem ↔ 4 PX1 converter drive connecting cable, 6ft (1.8m) long	<b>51 C9</b>	83.00
IP54 front protection cover for DMK 30/31/32/40	<b>31 PA96X96</b>	34.00

### General characteristics

DMK 3... and DMK 6... multimeters comprise excellent features, superior to devices of the same category currently on the marketplace. Distorted waveform conditions, such as very disturbed electric lines having voltage and currents with high harmonic content and variable frequency, do not influence the high accuracy DMK multimeter readouts because of rigorous design in addition to the use of the latest generation of microprocessor technology. Measurement of the phase angle ( $\cos\phi$ ) in addition to power factor, harmonics analysis and HIGH-LOW-MAX functions are just a few of those which are difficult to find on higher category equipment. The DMK 40 version includes a reliable data-logger system, extremely easy to use. DMK 3..., DMK 40 and DMK 6... digital multimeter can display more than 251 measurements; a few of these are listed below.

- Voltage: phase, line and system values
- Current: phase and system values
- Power: active, reactive, apparent phase and total values
- Energy: import, export, inductive and capacitive values
- P.F.: power factor per phase
- $\cos\phi$ : angle displacement, i.e. power factor related to the harmonic fundamental only
- Frequency of measured voltage value
- Harmonics (HARM.): residual and total harmonic content for each harmonic order up to the 22° per phase, both for voltage and current values
- HIGH / LOW: readings of maximum / minimum values of phase voltage and current and  $\Sigma W$ ,  $\Sigma var$  and  $\Sigma VA$  power
- Maximum (MAX): readings of maximum current and total active power values, both calculated on programmable integration time.

The technical features of the DMK 40 data-logger are:

- 2Mb non-volatile memory for data logging
- Real Time Clock (RTC) with replaceable back-up lithium battery
- Sampling time, 1s to 24h configurable
- Number of sampling measures, 1 to 32 configurable at a time
- Communication protocols: Modbus®-RTU and ASCII
- Data logging of one electric parameter in continuous format or with begin and end by programmable thresholds
- Suspension of data acquisition at full memory or refreshing of oldest data.

### Operational characteristics

- Auxiliary power: 100-240VAC; 110-250VDC
- Operating range: 85-265VAC; 93.5-300VDC
- Voltage measure range: 20-830VAC L-L in one model
- Current measure range: 0.02-6A
- HIGH and LOW value functions to detect and log instantaneous voltage, current and power values
- Averaging function to slow down repetitive fluctuations to obtain more stable readouts
- Current connection in ARON configuration via 2 current transformers only
- Single, three phase with or without neutral and balanced three-phase connection via 1 current transformer only
- Usage with potential transformers for voltages >830VAC
- Operating frequency: 45-65Hz
- TRMS measurements up to 22° harmonic order, class 1 accuracy
- Power factor and  $\cos\phi$  measure
- Voltage and current harmonic analysis per phase up to 22° harmonic order
- Electric meters of active energy (import-export)
- Electric meters of reactive energy (inductive-capacitive)
- Housing: flush mount 3.8x3.8in (96x96mm) for DMK 3...and DMK 40; modular for DMK 6...
- Degree of protection:
  - IP54 on front for DMK 3... and DMK 40
  - IP41 on front for DMK 6...
  - IP 20 at rear.

### Certifications and compliance

UL listed for USA and Canada, File E93601.  
Compliant with standards: IEC/EN 61010-1,  
IEC/EN 61000-6-2, CISPR11/EN 55011.

## Current transformers



DM1T



DM2T



DM3T

Primary Current [5A]	Burden Class 0.5 [VA]	Class 1 [VA]	Catalog number	Price \$ each
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For Ø0.87in / 22mm wire.

40	-	1	<b>DM1T 0040</b>	34.00
50	-	1	<b>DM1T 0050</b>	34.00
60	-	1	<b>DM1T 0060</b>	34.00
80	1.5	3	<b>DM1T 0080</b>	34.00
100	1.5	3	<b>DM1T 0100</b>	34.00
150	1.5	3	<b>DM1T 0150</b>	34.00

For Ø0.91in / 23mm wire.

For 1.2X0.9in / 30X10mm, 1X0.6in / 25X15mm,  
0.8X0.6in / 20X15mm busbars.

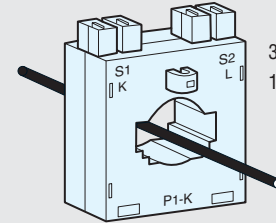
60	-	1	<b>DM2T 0060</b>	36.00
80	-	1	<b>DM2T 0080</b>	36.00
100	-	1	<b>DM2T 0100</b>	36.00
150	-	1	<b>DM2T 0150</b>	36.00
200	1.5	3	<b>DM2T 0200</b>	36.00
250	1.5	3	<b>DM2T 0250</b>	36.00
300	1.5	3	<b>DM2T 0300</b>	39.00
400	1.5	4	<b>DM2T 0400</b>	39.00

For 1.6X0.9in / 40X10mm, 1.2X0.8in / 30X20mm,  
1X1in / 25X25mm busbars.

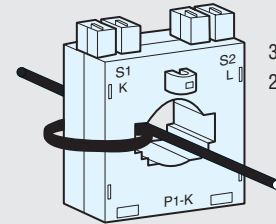
200	2	4	<b>DM3T 0200</b>	51.00
250	2.5	5	<b>DM3T 0250</b>	51.00
300	4	6	<b>DM3T 0300</b>	63.00
400	5	6	<b>DM3T 0400</b>	63.00
500	6	10	<b>DM3T 0500</b>	70.00
600	6	12	<b>DM3T 0600</b>	70.00
800	8	15	<b>DM3T 0800</b>	89.00
1000	10	20	<b>DM3T 1000</b>	89.00

### General characteristics

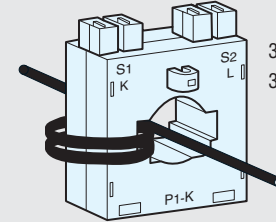
The DM...T series current transformers (CT) are installed in electric systems to reduce the line current to a secondary value of 5A, which is compatible with current inputs of digital multimeters or protection relays. These are without primary winding and are used for high primary current values from 40A upward. Suitable for screw fixing or mounting on 35mm DIN rail (IEC/EN 60715), using the standard-supplied kit. The number of loops of the primary cable does not modify the accuracy but converts the primary current value proportional to secondary current.



300 / 5A standard  
1 loop = 300 / 5A



300 / 5A  
2 loops = 150 / 5A



300 / 5A  
3 loops = 100 / 5A

### Operational characteristics

- Operating frequency: 40-60Hz
- Secondary output current: 5A
- Overload withstand: 1.2 In
- Rated dynamic current Idyn: 2.5 rated Ith current for 1 second
- Insulation (dry type): class E
- Ambient conditions:
  - Operating temperature: -4...+122°F (-20 ... +50°C)
  - Storage temperature: -40...+176°F (-40 ... +80°C)
  - Relative humidity: 90%, no condensation
  - Degree of protection: IP30.

### Certifications and compliance

No UL listing or recognition.  
Compliant with standards: IEC/EN 60044-1.



### PAGE 14-2

#### ADXM06BP - ADXM12BP - ADXM18BP

- Rated starter current Ie 6 to 18A ratings
- Rated motor power 1.5 to 10HP up to 600VAC
- Integrated by-pass relay
- Adjustable acceleration and deceleration time and initial torque
- LED indicators for starter status
- 35mm DIN rail mounting.



### PAGE 14-3

#### ADXM25BP - ADXM45BP

- Rated starter current Ie 25 to 45A ratings
- Rated motor power 10 to 40HP up to 600VAC
- Integrated by-pass relay
- Total protection against over temperature
- LED indicators for starter status
- Adjustable acceleration and deceleration time and initial torque
- 35mm DIN rail mounting.

- ◆ 6 to 45A starter ratings
- ◆ Internal by-pass relay
- ◆ Two-pole switching
- ◆ Soft start and stop
- ◆ Initial torque control for smooth and gradual starting
- ◆ Total integrated motor protection.



### Soft starters

	SEC.	PAGE
1.5 to 10HP ratings up to 600VAC .....	14-	2
10 to 40HP ratings up to 600VAC .....	14-	3