## SIEMENS

## Data sheet

## 6ES7134-6PA20-0BD0



\*\*\* spare part \*\*\* SIMATIC ET 200SP, Analog input module, AI Energy Meter 480 V AC ST, suitable for BU type D0, channel diagnostics

	AI Energy Meter 480VAC ST
Firmware version	/4.0
• FW update possible Y	/es
	BU type D0
	T, TN
Product function	,
	/es
	/es
	/es
	/es
— without current transformer	No
— with current transformer Y	/es
— With Rogowski coil	No
-	No
• Energy measurement Y	/es
	/es
	/es
Active power measurement     Y	/es
Reactive power measurement     Y	/es
Power factor measurement     Y	/es
Active factor measurement	lo
Reactive power compensation	٨o
	lo
• I&M data	Yes; I&M0 to I&M3
Isochronous mode	۱o
Engineering with	
STEP 7 TIA Portal configurable/integrated from V version	/13 SP1
	/5.5 SP4 and higher
· · · · · · · · · · · · · · · · · · ·	GSD Revision 5
	/2.3
Operating mode	
	/es
	/es
	/es
Freely definable measured value sets     Y	/es
CiR - Configuration in RUN	
	/es
	/es
Installation type/mounting	
	any

Buttop:         Supply via voltage measurement channel L1           Rated value (AC)         AC 100 - 277 V           Permissible range, lower limit (AC)         203 V           Libite frequency         41 Hz           • permissible range, lower limit (AC)         203 V           • Address same         Address same           • Cuptods         12 byte           • Cuptods         12 byte           • Comparison         BU type DO, BU2D-P12+A0+08           • Inter of all         Yes           • Note channels), typ.         Soft ms; Time for consistent update of all measured and calculated values (cyclic und acyclic drin)           • Cope time (all channels), typ.         Soft ms; Time for consistent update of all measured and calculated values (cyclic und acyclic drin)           • Cold chign         Soft ms; Ti	Supply voltage	
Rated value (AC)         AC 100 - 277 V           permissible range, lower limit (AC)         203 V           Limite frequency         -           • permissible range, lower limit (AC)         203 V           • permissible range, lower limit (AC)         204 W           Address area         -           Address space per module         256 byte           • Inputs         256 byte           • Outputs         12byte           Address area         -           Address space per module         Yes           • Twee onfiguration         -           • Mechanical coding element         Yes C           • Statisticat of Baseduch for conceleductor values         -           • Outputs         500 m         -           • Machan principle         Sigma Delta         -           • Cable length         -         -           • Unanducke alarm		Supply via voltage measurement channel L1
permissile range, upper limit (AC) 90 Variants permissile range, upper limit (AC) 233 V Line frequency. • permissible range, upper limit 63 Hz Power loss. tp. 0.6 W Address area per module • forest area per module • Outputs 256 byte • Out		
jermassile range upper limit (AC) 293 V line frequency		
Line frequency         47 Hz           • permissible range, uoper limit         0.3 Hz           Power loss         0.6 W           Address apace per module         56 byte           • Inputs         256 byte           • Outputs         125 byte           Address apace per module         12 byte           • Outputs         12 byte           Hardware configuration         Yes           Automate consoling element         Yes           • Type of mechanical coding element         Yes           • Outputs         50 ms; Time for consistent update of all measured and calculated values (cycic und acycic data)           Cycie time (all channels), typ.         50 ms; Time for consistent update of all measured and calculated values (cycic und acycic data)           Cycie time (all channels), typ.         50 ms; Time for consistent update of all measured and calculated values (cycic und acycic data)           Cable length         200 m           • unshielded, max.         200 m           Analog value generation for the laputs         Measurement principle           Sigma Deta         3 und chala           • Diagnostic sistants information         Yes           • Limit value alem         Yes           • Limit value alem         Yes           • Limit value alem         Yes		
permissible range, lower limit         47 fz         permissible range, lower limit         63 fz         Power loss         Po		233 V
• permissible range, upper limit     93 Hz Power loss		47 Hz
Power loss         0.6 W           Address and         Address and           Address and	· · · ·	
Power loss, typ.     0.6 W       Address area     Address gace per module       • Inputs     256 Byte       • Outputs     12 byte       Hardware configuration     12 byte       Automate encoding     Ves       • Automate encoding     Yes       • Automate encoding     Yes       • Automate encoding     Yes       • Automate encoding     Yes       • Present     Yes       • Analog inputs     50 ms; Time for consistent update of all measured and calculated values (yeals und acyclic data)       • Outputs     200 m       Analog inputs     200 m       Cycle time (all channels), typ.     50 ms; Time for consistent update of all measured and calculated values (yeals und acyclic data)       • analog inputs     200 m       Cable tength     50 ms; Time for consistent update of all measured and calculated values (yeals und acyclic data)       • analog value generation for the inputs     Sigma Delta       Sampling frequency, max.     1024 kHz       Interrupts//diagnostics/status information     Yes       • Limit value altern     Yes       • Contrastics     Yes       • Contrastics     Yes       • Contrastics     <		
Address space per module         Address space per module         • Inputs       256 byte         • Outputs       12 byte         Address space per module       Yes         • Mechanical coding element       Yes         • Type of mechanical coding element       Yes         • Operating hours counter       • present         • present       Yes         • Analog inputs       50 ms; Time for consistent update of all measured and calculated values (cyclic und acyclic data)         Cable length       00 m         • unshielded, max.       200 m         Madag value generation for the inputs       Sigma Delta         Massurement principle       Sigma Delta         • Diagnostic alarm       Yes         • Unit value alarm       Yes         • Diagnostic indication LED       Yes         • Channel status dispay       Yes; green LED         • for module diagnostics       Yes; green LED         • for module diagnostics       Yes; green LED         • for module diagnostics       Yes; green LED		0.0 W
Address space per module     266 byte       • Outputs     12 byte       Hardware configuration     Yes       Automatic encoding dement     Yes       • Type of mechanical coding element     Yes       • Type of mechanical coding element     Yes       • Zwire connection     BU type D0, BU20-P12+A0+0B       • Zwire connection variants     BU type D0, BU20-P12+A0+0B       • Zwire connection variants     • Zwire connection variants       • Zwire connection variants     • Zwire connection variants       • Cycle time (all channels), typ.     50 ms; Time for consistent update of all measured and catculated values (cyclic und acyclic data)       Cable length     • unshielded, max.       • unshielded, max.     200 m       Analog value generation for the inputs     Sigme Delta       Sampling frequency, max.     1024 kHz       Interruptidiagnostics/status information     Xaarus       Aarus     Ves       • Unant value alarm     Yes; green LED       • Contanel diagnostics     Yes; green LED       • Contanel diagnostics     Yes; green LED       • Contanel diagnostics     Yes; green LED       • Measuring procedure for voltage measurement     TRMS       • Measuring procedure for voltage measurement     TRMS       • Measuring procedure for voltage measurement     Yes       • Diagnost		0.6 W
	Address area	
• Ouiputs     12 byle       Hardware confliguration     Yes       • Automatic encoding element     Yes       • Type of mechanical coding element     Yes       • Selection of BaseUnit for connection variants     Element       • Selection of BaseUnit for connection variants     Element       • Prave of mechanical coding element     Bul type D0. BU20-P12+A0+0B       Time of day     Colorent       Operating hours counter     • Present       • present     Yes       Analog inputs     Sol ms: Time for consistent update of all measured and calculated values (cyclic und acyclic data)       • cable length     • unshielded, max.       • unshielded, max.     200 m       Analog value generation for the inputs     Measurement principle       Measurement principle     Sigma Delta       Sampling frequency, max.     1024 kHz       Interrupt/diagnostic-sistatus information     Yes       • Unit value alarm     Yes       • Channel status stipsity     Yes       • Channel status stipsity     Yes       • Channel diagnostics     Yes; ree Fin LED       • For module d	Address space per module	
Hardware configuration       Yes         Automatic encoding       Yes         • Mechanical coding element       Ype C         Selection of BaseUnit for connection variants       EV         • 2-wire connection       BU type D0, BU20-P12+A0+08         Time of day       Operating hours counter         • present       Yes         • Analog inputs       Cycle time (all channels), typ.         Cobic length       50 ms; Time for consistent update of all measured and calculated values (cyclic und acyclic data)         Cable length       00 m         • unshielded, max.       200 m         Analog value generation for the inputs       Interrupt values (cyclic und acyclic data)         Measurement principle       Sigma Delta         Sigma Delta       1 024 kHz         Interrupt values (acyclic und acyclic data)       Yes         • Diagnostic alarm       Yes         • Limit value alarm       Yes         • Limit value alarm       Yes         • Limit value alarm       Yes         • Channel status display       Yes         • Channel status display       Yes; red Fn LED         • for module diagnostics       Yes; red Fn LED         • for module diagnostics       Yes         • progenter length       7		
Automatic encoding     Yes       • Mechanical coding element     Yes       • Type of mechanical coding element     Yes       • Selection of BaseUnit for connection variants     •       • Zwite connection     BU type D0, BU20-P12+A0+0B       Time of day     •       Operating hours counter     •       • present     Yes       Analog inputs     •       Cycle time (all channels), typ.     50 ms; Time for consistent update of all measured and calculated values (cyclic und acyclic data)       Cable length     •       • unshielded, max.     200 m       Analog value generation for the inputs     •       Measurement principle     Sigma Delta       Sampling frequency, max.     1024 kHz       Interrupts/cligpnostics/status information     Yes       • Link value alarn     Yes       • Channel status display     Yes; red Fn LED       • for module diagnostics     Yes; red Fn LED       • for module diagnostics     Yes; red Fn LED       • for module diagnostics     Yes       • Prannel rength     74 byle       • Bandwith of measur	Outputs	12 byte
Mechanical coding element     Yes     Ypp of mechanical coding element     type C     Selection of BaseJuhi for connection variants     e 2-wire connection     advector of mechanical coding element     Ypp of ypp of the supply voltage (PVR-LED)     Yes; green LED     Yes; green LED     Yes; ref n LED     Ypp of mecanical coding element     Ypp of mecanic dividition     Ypp of mecanic dividition     Ypp of mecanical	Hardware configuration	
• Type of mechanical coding element     type C       Selection of BaseUnit for connection variants     • 2-xvite connection       • present     BU type D0, BU20-P12+A0+0B       Time of day     • present       • present     Yes       Analog inputs     • Cycle time (all channels), typ.       Cable length     • some consistent update of all measured and calculated values (cyclic und acyclic data)       Cable length     • unshielded, max.       • unshielded, max.     200 m       Analog value generation for the inputs     Measurement principle       Sampling frequency, max.     1024 kHz       Interrupt s/diagnostics/status information     1024 kHz       Alarms     • Use; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value)       Diagnostics indication LED     Yes       • Channel status display.     Yes; green LED       • for channel diagnostics     Yes; green rLED       • for module diagnostics     Yes; red Fn LED       • for module diagnostics     Ye	Automatic encoding	Yes
Selection of BaseLink for connection variants       BU type D0, BU20-P12+A0+0B         • 2-wire connection       BU type D0, BU20-P12+A0+0B         Operating hours counter       • present         • present       Yes         Analog inputs       • Operating hours counter         • Cycle time (all channels), typ.       50 ms: Time for consistent update of all measured and calculated values (cyclic und acyclic data)         Cable length       • unshielded, max.       200 m         Analog value generation for the inputs       • Use MAIZ       • Interrupt-Stalgnesstics/status information         Alaring value generation for the inputs       • Use KHZ       • Interrupt-Stalgnesstics/status information         Alarms       • Diagnostic alarm       Yes       • Interrupt-Stalgnesstics/status information         Alarms       • Use Nontoring of up to 18 freely selectable process values (exceeding or undershooting of value)       • Diagnostic alarm       Yes         • Analot value gainpostics       Yes; green LED       Yes; green LED       • Yes; green /FeD         • for module diagnostics       Yes; green /FeD       Yes; green /FeD       • Neasuring procedure for voltage measurement         • Measuring procedure for voltage measurement       TRMS       • Neasuring procedure for voltage measurement         • Measuring procedure for voltage measurement       TRMS       • Sinusoidal or disto	<ul> <li>Mechanical coding element</li> </ul>	Yes
• 2-wire connection     BU type D0, BU20-P12+A0+0B Time of asy Operating hours counter     • present     Yes Analog inputs Crde time (all channels), typ.     50 ms; Time for consistent update of all measured and calculated     values (cyclic und acyclic data)     Cable length     • unshielded, max.     200 m Analog value generation for the inputs Measurement principle Sigma Delta Sampling frequency, max.     1 024 kHz Interrupts/diagnostics/status information     Ves     Uinit value a larm     Yes     Uinit value a larm     Yes     Uinit value a larm     Yes     Channel diagnostics     Yes; monitoring of the supply voltage (PWR-LED)     Yes; red Fn LED     for channel diagnostics     Yes; red Fn LED     ior module diagnostics     Yes; red Fn LED     ior module diagnostics     Yes; red Fn LED     Measuring procedure for voltage measurement     TRMS     Measuring procedure for voltage measurement     TRMS     Parametic length     TRMS     Parametic length     Sumsoid of ordistried     Yes     Yes     Ves     Parametic length     ZkHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz      Measuring inputs for voltage     Parametic length     TRMS     Parametic length     Tequency measurement, min.     Server as the voltage between phase and     neutral conductor     Measuring inputs for voltage     Parametic length     TRMS     Parametic length	<ul> <li>Type of mechanical coding element</li> </ul>	type C
Time of day       Analog inputs         Operating hours counter       • present         • present       Yes         Analog inputs       50 ms; Time for consistent update of all measured and calculated values (cyclic und acyclic data)         Cable length       50 ms; Time for consistent update of all measured and calculated values (cyclic und acyclic data)         Cable length       200 m         Analog value generation for the inputs       Sigma Delta         Sampling frequency, max.       1024 kHz         Interrupts/diagnostics/status information       Hardware interrupt         Alarms       Yes         • Diagnostic alarm       Yes         • Linit value alarm       Yes         • Linit value alarm       Yes         • Channel status display       Yes; green LED         • for module diagnostics       Yes; rea Fn LED         • for module diagnostics       Yes; green LED         • for module diagnostics       Yes; smusoidal or distorted         • Measuring procedure for voltage measurement       TRMS         • Que shape of voltage       Sinusoidal or distorted         • Diagnostics ing procedure for voltage measurement       TRMS         • Parameter length       74 byte         • Parameter length       74 byte         • Paramete	Selection of BaseUnit for connection variants	
Operating hours counter         Yes           Anatog inputs         Cycle time (all channels), typ.         50 ms; Time for consistent update of all measured and calculated values (cyclic und acyclic data)           Cable length         • unshielded, max.         200 m           Anatog inputs         200 m           Anatog value generation for the inputs         Measurement principle           Sampling frequency, max.         1 024 kHz           Interrupts/diagnostics/status information         Alarms <ul> <li>Diagnostic alarm</li> <li>Yes</li> <li>Hardware interrupt</li> <li>Yes; Konitoring of up to 16 freely selectable process values (exceeding or undershooting of value)</li> </ul> Diagnostics indication LED <ul> <li>Gor channel diagnostics</li> <li>Yes; green LED</li> <li>Yes; green LED</li> <li>Yes; green/ed DLAG LED</li> </ul> <ul> <li>Measuring inclusions</li> <li>Yes; green/ed DLAG LED</li> </ul> <ul> <li>Measuring inclusions</li> <li>Yes; information and diagnostics</li> <li>Yes; green/ed DLAG LED</li> </ul> <ul> <li>Measuring inclustors</li> <li>Yes ef n LED</li> <li>Yes for module diagnostics</li></ul>	2-wire connection	BU type D0, BU20-P12+A0+0B
• present         Yes           Analog inputs         50 ms; Time for consistent update of all measured and calculated values (cyclic und acyclic data)           Cable length         • unshielded, max.         200 m           • unshielded, max.         200 m           Analog value generation for the inputs         Sigma Delta           Sampling frequency, max.         1 024 kHz           Interrupts/diagnostics/status information         Interrupts/diagnostics/status information           Alarms         Yes           • Lignostic alarm         Yes           • Lignostic alarm         Yes           • Lignostic alarm         Yes           • Lignostic alarm         Yes           • Limit value alarn         Yes           • Channel status display         Yes; green LED           • Kontitoring of the supply voltage (PWR-LED)         Yes           • Channel diagnostics         Yes; green LED           • for channel diagnostics         Yes; green LED           • for channel diagnostics         Yes; green LED           • Measuring procedure for voltage measurement         TRMS           • Measuring procedure for voltage measurement         TRMS           • for channel diagnostics         Yes           • for channel diagnostics         Yes	Time of day	
• present         Yes           Analog inputs         50 ms; Time for consistent update of all measured and calculated values (cyclic und acyclic data)           Cable length         • unshielded, max.         200 m           • unshielded, max.         200 m           Analog value generation for the inputs         Sigma Delta           Sampling frequency, max.         1 024 kHz           Interrupts/diagnostics/status information         Interrupts/diagnostics/status information           Alarms         Yes           • Lignostic alarm         Yes           • Lignostic alarm         Yes           • Lignostic alarm         Yes           • Lignostic alarm         Yes           • Limit value alarn         Yes           • Channel status display         Yes; green LED           • Kontitoring of the supply voltage (PWR-LED)         Yes           • Channel diagnostics         Yes; green LED           • for channel diagnostics         Yes; green LED           • for channel diagnostics         Yes; green LED           • Measuring procedure for voltage measurement         TRMS           • Measuring procedure for voltage measurement         TRMS           • for channel diagnostics         Yes           • for channel diagnostics         Yes	Operating hours counter	
Cycle time (all channels), typ.       50 ms; Time for consistent update of all measured and calculated values (cyclic und acyclic data)         Cable length       • unshielded, max.         • unshielded, max.       200 m         Analog value generation for the inputs       Sigma Delta         Measurement principle       Sigma Delta         Sampling frequency, max.       1 024 kHz         Interrupts/diagnostics/status information       Alarms          Ibignostic alarm       Yes          • Linit value alarm       Yes          • Linit value alarm       Yes          • Linit value alarm       Yes          • Channel status display       Yes; green LED          • Or onducle diagnostics       Yes; green LED          • Or onducle diagnostics       Yes; green LED          • for module diagnostics       Yes		Yes
Cycle time (all channels), typ.       50 ms; Time for consistent update of all measured and calculated values (cyclic und acyclic data)         Cable length       • unshielded, max.         • unshielded, max.       200 m         Analog value generation for the inputs       Sigma Delta         Measurement principle       Sigma Delta         Sampling frequency, max.       1 024 kHz         Interrupts/diagnostics/status information       Alarms          Ibignostic alarm       Yes          • Linit value alarm       Yes          • Linit value alarm       Yes          • Linit value alarm       Yes          • Channel status display       Yes; green LED          • Or onducle diagnostics       Yes; green LED          • Or onducle diagnostics       Yes; green LED          • for module diagnostics       Yes	Analog inputs	
Cable length         • unshielded, max.       200 m         Analog value generation for the Inputs         Measurement principle       Sigma Delta         Sampling frequency, max.       1 024 kHz         Interrupts/dlagnostics/status information       Amminian         Amminian       Yes         • Diagnostic alarm       Yes         • Limit value alarm       Yes         • Interrupts/dlagnostics/status information       Yes         Amminian       Yes         • Limit value alarm       Yes         • Interrupts/dlagnostics indication LED       Personanceshooting of up to 16 freely selectable process values (exceeding or underschooting of value)         Diagnostic indication LED       Yes         • Annel diagnostics       Yes; green LED         • for module diagnostics       Yes; red Fn LED         • for module diagnostics       Yes; green/red DIAG LED         Integrated Functions       TRMS         • Assuring procedure for outlage measurement       TRMS         • Type of measured value acquisition       seamless         • Curve shape of voltage       Sinusoidal or distorted         • Bandwidth of measured value acquisition       2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz         Measuring range       - Frequency measurement, min.       <		50 ms: Time for consistent update of all measured and calculated
Cable length       • unshielded, max.       200 m         Analog value generation for the inputs       Measurement principle       Sigma Delta         Sampling frequency, max.       1 024 kHz         Interrupts/dlagnostics/status information       Alarms <ul> <li>Diagnostic alarm</li> <li>Yes</li> <li>Limit value alarm</li> <li>Yes</li> <li>Hardware interrupt</li> <li>Yes; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value)</li> </ul> Diagnostics indication LED       Yes; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value)         Diagnostics indication LED       Yes; green LED <ul> <li>Monitoring of the supply voltage (PWR-LED)</li> <li>Yes; green LED</li> <li>for module diagnostics</li> <li>Yes; green LED</li> <li>for module diagnostics</li> <li>Yes; green red DIAG LED</li> </ul> <ul> <li>Measuring procedure for outlage measurement</li> <li>TRMS</li> <li>TRMS</li> <li>Treps of measured value acquisition</li> <li>seamless</li> <li>Sinusolidal or distorted</li> <li>Buffering of measured value acquisition</li> <li>Seamless</li> <li>Parameter length</li> <li>A byte</li> </ul> <ul> <li>Prequency measurement, min.</li> <li>Frequency measurement, min.</li> <li>Frequency measurement, max.</li>             &lt;</ul>		values (cyclic und acyclic data)
Analog value generation for the inputs         Measurement principle       Sigma Detta         Sampling frequency, max.       1 024 kHz         Interrupts/diagnostics/status information       Idade         Alarms       Olagnostic alarm       Yes <ul> <li>Limit value alarm</li> <li>Hardware interrupt</li> <li>Yes; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value)         Diagnostics indication LED       *                <ul> <li>Monitoring of the supply voltage (PWR-LED)</li> <li>Yes; green LED</li> <li>Yes; green LED</li> <li>* for channel diagnostics</li> <li>Yes; green/red DIAG LED</li> </ul>             Measuring procedure for voltage measurement       TRMS         * Measuring procedure for voltage measurement       TRMS         • Measuring procedure for voltage measurement       TRMS         • Measuring procedure for voltage       Sinusoidal or distorted         • Curve shape of voltage       Sinusoidal or distorted         • Diagnostic range       Yes         • Curve shape of voltage       Sinusoidal or distorted         • Endency measurement, max.       45 Hz         • Frequency measurement, max.       65 Hz         Measuring procedure voltage between phase and neutral conductor       480 V         <u< td=""><td>Cable length</td><td></td></u<></li></ul>	Cable length	
Measurement principle Sampling frequency, max.         Sigma Delta 1 024 kHz           Interrupts/diagnostics/status information         1 024 kHz           Alarms              • Diagnostic alarm • Limit value alarm • Hardware interrupt          Yes Yes; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value)            Diagnostics indication LED • Monitoring of the supply voltage (PWR-LED) • Channel status display • for channel diagnostics • for channel diagnostics • for channel diagnostics • for module diagnostics • for module diagnostics • Measuring procedure for voltage measurement • Measuring procedure for voltage measurement • TRMS • Curve shape of voltage • Parameter length • Curve shape of voltage • Parameter length • Parameter length • Frequency measurement, min. • Frequency measurement, min. • Frequency measurement, min. • Frequency measurement, min. • Prequency measurement, min. • Frequency measurement, min. • Frequency measurement, min. • Frequency measurement, max. • Soft Hz             • Parameter length • Prequency measurement, max. • Soft Hz             • Measurable line voltage between phase and neutral conductor • Measurable line voltage between phase and neutral conductor, min. • Measurable line voltage between phase and neutral conductor, min. • Measurable line voltage between phase and neutral conductor, min.	-	200 m
Measurement principle Sampling frequency, max.         Sigma Delta 1 024 kHz           Interrupts/diagnostics/status information         1 024 kHz           Alarms              • Diagnostic alarm • Limit value alarm • Hardware interrupt          Yes Yes; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value)            Diagnostics indication LED • Monitoring of the supply voltage (PWR-LED) • Channel status display • for channel diagnostics • for channel diagnostics • for channel diagnostics • for module diagnostics • for module diagnostics • Measuring procedure for voltage measurement • Measuring procedure for voltage measurement • TRMS • Curve shape of voltage • Parameter length • Curve shape of voltage • Parameter length • Parameter length • Frequency measurement, min. • Frequency measurement, min. • Frequency measurement, min. • Frequency measurement, min. • Prequency measurement, min. • Frequency measurement, min. • Frequency measurement, min. • Frequency measurement, max. • Soft Hz             • Parameter length • Prequency measurement, max. • Soft Hz             • Measurable line voltage between phase and neutral conductor • Measurable line voltage between phase and neutral conductor, min. • Measurable line voltage between phase and neutral conductor, min. • Measurable line voltage between phase and neutral conductor, min.	Analog value generation for the inputs	
Sampling frequency, max.       1 024 kHz         Interrupts/diagnostics/status information         Alarms            • Diagnostic alarm         • Liniti value alarm         • Hardware interrupt         • Ves          • Hardware interrupt          • Bagostic sindication LED          • Monitoring of the supply voltage (PWR-LED)          • Monitoring of the supply voltage (PWR-LED)          • Channel status display          • for channel diagnostics          • for channel diagnostics          • for channel diagnostics          • for channel diagnostics          • Measuring procedure for voltage measurement          • Type of measured value acquisition          • Suffering of measured value acquisition          • Parameter length          • Parameter length          • Frequency measurement, min.          • Frequency measurement, min.          • Frequency measurement, max.         • Frequency measurement, max.         • Frequency measurement, max.         • Frequency measurement, max.         • Frequenc		Sigma Delta
Interrupts/diagnostics/status information         Alarms <ul> <li>Diagnostic alarm</li> <li>Limit value alarm</li> <li>Yes</li> <li>Hardware interrupt</li> <li>Yes; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value)</li> </ul> Diagnostics indication LED <ul> <li>Monitoring of the supply voltage (PWR-LED)</li> <li>Channel status display</li> <li>Yes; green LED</li> <li>for module diagnostics</li> <li>Yes; green LED</li> <li>for module diagnostics</li> <li>Yes; green/red DIAG LED</li> </ul> Integrated Functions         Measuring procedure for voltage measurement       TRMS         Measuring procedure for voltage measurement       TRMS         • Arameter length       74 byte         • Darameter length       74 byte         • Bandwidth of measured value acquisition       2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz         Measuring range <ul> <li>Frequency measurement, min.</li> <li>Frequency measurement, max.</li> <li>65 Hz</li> </ul> Measuring involtage between phase and neutral conductor       480 V         — Measurable line voltage between phase and neutral conductor       480 V         — Measurable line voltage between phase and neutral conductor       90 V		0
Alarms       Diagnostic alarm       Yes <ul> <li>Limit value alarm</li> <li>Yes</li> <li>Hardware interrupt</li> <li>Yes (monitoring of up to 16 freely selectable process values (exceeding or undershooting of value)</li> </ul> Diagnostics indication LED       * <ul> <li>Monitoring of the supply voltage (PWR-LED)</li> <li>Yes; green LED</li> <li>Yes; rot Fn LED</li> <li>for channel diagnostics</li> <li>Yes; green/red DIAG LED</li> </ul> <ul> <li>Integrated Functions</li> </ul> <ul> <li>Measuring procedure for voltage measurement</li> <li>TRMS</li> <li>Tagnostical value acquisition</li> <li>Burdifering of measured value acquisition</li> <li>Curve shape of voltage</li> <li>Sinusoidal or distorted</li> <li>Yes</li> <li>Parameter length</li> <li>Zes</li> <li>Yes</li> <li>Frequency measurement, min.</li> <li>Frequency measurement, max.</li> <li>Se Hz</li> </ul> <ul> <li>Measuring inputs for voltage</li> <li>Conductor</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> </ul>		
<ul> <li>Diagnostic alarm</li> <li>Yes</li> <li>Limit value alarm</li> <li>Yes</li> <li>Hardware interrupt</li> <li>Yes, Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value)</li> <li>Diagnostics indication LED</li> <li>Channel status display</li> <li>Yes; green LED</li> <li>for channel status display</li> <li>Yes; red Fn LED</li> <li>for module diagnostics</li> <li>Yes; green/red DIAG LED</li> <li>Integrated Functions</li> <li>Measuring procedure for voltage measurement</li> <li>TRMS</li> <li>Type of measured value acquisition</li> <li>seamless</li> <li>Curve shape of voltage</li> <li>Sinusoidal or distorted</li> <li>Bardwidth of measured value acquisition</li> <li>2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz</li> <li>Measuring inputs for voltage</li> <li>Measuring inputs for voltage</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> </ul>		
• Limit value alarm       Yes         • Hardware interrupt       Yes; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value)         Diagnostics indication LED       ************************************		Yes
• Hardware interrupt       Yes; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value)         Diagnostics indication LED       •         • Monitoring of the supply voltage (PWR-LED)       Yes; green LED         • Channel status display       Yes; red Fn LED         • for channel diagnostics       Yes; red Fn LED         • for module diagnostics       Yes; green/red DIAG LED         Integrated Functions       Integrated Functions         Measuring procedure for voltage measurement       TRMS         • Measuring procedure for outrate measurement       TRMS         • Type of measured value acquisition       seamless         • Curve shape of voltage       Sinusoidal or distorted         • Buffering of measured value acquisition       2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz         • Frequency measurement, min.       45 Hz         • Frequency measurement, max.       65 Hz         Measuring inputs for voltage       277 V         • Measurable line voltage between phase and neutral conductor, min.       480 V         • Measurable line voltage between phase and neutral conductor, min.       90 V         • Measurable line voltage between phase and neutral conductor, min.       90 V	-	
Diagnostics indication LED         • Monitoring of the supply voltage (PWR-LED)       Yes         • Channel status display       Yes; green LED         • for channel diagnostics       Yes; red Fn LED         • for module diagnostics       Yes; green/red DIAG LED         Integrated Functions       Integrated Functions         Measuring procedure for voltage measurement       TRMS         • Measuring procedure for current measurement       TRMS         • Type of measured value acquisition       seamless         • Curve shape of voltage       Sinusoidal or distorted         • Buffering of measured value acquisition       2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz         Measuring inputs for voltage       -         • Frequency measurement, min.       45 Hz         • Frequency measurement, max.       65 Hz         Measuring inputs for voltage between phase and neutral conductor       277 V         • Measurable line voltage between the line conductors       480 V         • Measurable line voltage between the line conductor, min.       40 V         • Measurable line voltage between phase and neutral conductor, min.       90 V         • Measurable line voltage between phase and neutral bine voltage between phase and neutral bine voltage between phase and neutral bine voltage between phase and prevention for the phase and preventable line voltage between phase and preventable line		
Diagnostics indication LED       Yes         • Monitoring of the supply voltage (PWR-LED)       Yes; green LED         • Channel status display       Yes; green LED         • for channel diagnostics       Yes; red Fn LED         • for module diagnostics       Yes; green/red DIAG LED         Integrated Functions       Integrated Functions         Measuring procedure for voltage measurement       TRMS         • Measuring procedure for current measurement       TRMS         • Type of measured value acquisition       seamless         • Curve shape of voltage       Sinusoidal or distorted         • Buffering of measured value acquisition       2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz         Measuring range       - Frequency measurement, min.         • Frequency measurement, max.       65 Hz         Measuring inputs for voltage between phase and neutral conductor       277 V         • Measurable line voltage between the line conductor       480 V         • Measurable line voltage between the line conductor, min.       480 V		
Monitoring of the supply voltage (PWR-LED) Yes     Channel status display Yes; green LED     for channel diagnostics Yes; red Fn LED     for module diagnostics Yes; green/red DIAG LED     Integrated Functions  Measuring functions  Measuring procedure for voltage measurement TRMS     Measuring procedure for current measurement TRMS     Type of measured value acquisition seamless     Curve shape of voltage Sinusoidal or distorted     Buffering of measured value acquisition 2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz  Measuring range      — Frequency measurement, min.     — Frequency measurement, max.     Measuring inputs for voltage between phase and neutral conductor, min.     — Measurable line voltage between phase and neutral conductor, min.     — Measurable line voltage between phase and neutral conductor, min.     — Measurable line voltage between phase and neutral conductor, min.     — Measurable line voltage between phase and neutral conductor, min.     — Measurable line voltage between phase and neutral conductor, min.     — Measurable line voltage between phase and neutral conductor, min.     — Measurable line voltage between phase and neutral conductor, min.     — Measurable line voltage between phase and neutral conductor, min.     — Measurable line voltage between phase and neutral conductor, min.     — Measurable line voltage between phase and neutral conductor, min.     — Measurable line voltage between phase and neutral conductor, min.     — Measurable line voltage between phase and neutral conductor, min.     — Measurable line voltage between phase and neutral conductor, min.     — Measurable line voltage between phase and neutral conductor, min.     — Measurable line voltage between phase and neutral conductor, min.     — Measurable line voltage between phase and neutral conductor, min.     — Measurable line voltage between phase and neutral conductor, min.     — Measurable line voltage between phase and neutral conductor, min.     — Measurable line voltage between phase and neutreutral conduct	Diagnostics indication LED	
	-	Yes
• for channel diagnosticsYes; red Fn LED• for module diagnosticsYes; green/red DIAG LEDIntegrated FunctionsMeasuring procedure for voltage measurementTRMS• Measuring procedure for current measurementTRMS• Measuring procedure for current measurementTRMS• Measuring of measured value acquisitionseamless• Curve shape of voltageSinusoidal or distorted• Buffering of measured variablesYes• Parameter length74 byte• Bandwidth of measured value acquisition2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz• Erequency measurement, min.45 Hz- Frequency measurement, max.66 Hz• Measuring inputs for voltage between phase and neutral conductor277 V- Measurable line voltage between phase and neutral conductor, min.480 V- Measurable line voltage between phase and neutral conductor, min.90 V- Measurable line voltage between phase and neutral conductor, min.90 V		Yes; green LED
• for module diagnosticsYes; green/red DIAG LEDIntegrated FunctionsMeasuring functions• Measuring procedure for voltage measurementTRMS• Measuring procedure for current measurementTRMS• Type of measured value acquisitionseamless• Curve shape of voltageSinusoidal or distorted• Buffering of measured variablesYes• Parameter length74 byte• Bandwidth of measured value acquisition2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 HzMeasuring range Frequency measurement, min.45 Hz- Frequency measurement, max.65 HzMeasuring inputs for voltage between phase and neutral conductor277 V- Measurable line voltage between phase and neutral conductor min.480 V- Measurable line voltage between phase and neutral conductor min.90 V- Measurable line voltage between phase and neutral conductor min.90 V		-
Integrated Functions         Measuring functions         Measuring procedure for voltage measurement         TRMS         Measuring procedure for current measurement         Type of measured value acquisition         Seamless         Curve shape of voltage         Buffering of measured variables         Parameter length         Parameter length         Measuring range         — Frequency measurement, min.         — Frequency measurement, max.         45 Hz         — Frequency measurement, max.         65 Hz         Measuring inputs for voltage         — Measurable line voltage between phase and neutral conductor         — Measurable line voltage between the line conductors         — Measurable line voltage between phase and neutral conductor, min.         — Measurable line voltage between phase and neutral conductor, min.         — Measurable line voltage between phase and neutral conductor, min.         — Measurable line voltage between phase and neutral conductor, min.         — Measurable line voltage between phase and neutral conductor, min.         — Measurable line voltage between phase and neutral conductor, min.         — Measurable line voltage between phase and neutral conductor, min.	-	
Measuring functions       TRMS         • Measuring procedure for voltage measurement       TRMS         • Measuring procedure for current measurement       TRMS         • Type of measured value acquisition       seamless         • Curve shape of voltage       Sinusoidal or distorted         • Buffering of measured variables       Yes         • Parameter length       74 byte         • Bandwidth of measured value acquisition       2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz         Measuring range       —         — Frequency measurement, min.       45 Hz         — Frequency measurement, max.       65 Hz         Measuring inputs for voltage between phase and neutral conductor       277 V         — Measurable line voltage between the line conductor       480 V         — Measurable line voltage between phase and neutral conductor, min.       90 V         — Measurable line voltage between phase and neutral conductor, min.       293 V	_	
<ul> <li>Measuring procedure for voltage measurement</li> <li>TRMS</li> <li>Measuring procedure for current measurement</li> <li>Type of measured value acquisition</li> <li>Seamless</li> <li>Curve shape of voltage</li> <li>Sinusoidal or distorted</li> <li>Buffering of measured variables</li> <li>Yes</li> <li>Parameter length</li> <li>T4 byte</li> <li>Bandwidth of measured value acquisition</li> <li>2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz</li> <li>Measuring range</li> <li>Frequency measurement, min.</li> <li>Frequency measurement, max.</li> <li>65 Hz</li> <li>Measuring inputs for voltage</li> <li>Measurable line voltage between phase and neutral conductors</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> </ul>		
<ul> <li>Measuring procedure for current measurement</li> <li>Type of measured value acquisition</li> <li>Curve shape of voltage</li> <li>Sinusoidal or distorted</li> <li>Buffering of measured variables</li> <li>Yes</li> <li>Parameter length</li> <li>T4 byte</li> <li>Bandwidth of measured value acquisition</li> <li>2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz</li> <li>Measuring range</li> <li>Frequency measurement, min.</li> <li>Frequency measurement, max.</li> <li>65 Hz</li> <li>Measuring inputs for voltage</li> <li>Measurable line voltage between phase and neutral conductors</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> </ul>		TRMS
<ul> <li>Type of measured value acquisition</li> <li>Seamless</li> <li>Curve shape of voltage</li> <li>Buffering of measured variables</li> <li>Parameter length</li> <li>Bandwidth of measured value acquisition</li> <li>kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz</li> <li>Measuring range</li> <li>Frequency measurement, min.</li> <li>Frequency measurement, max.</li> <li>65 Hz</li> <li>Measurable line voltage between phase and neutral conductor</li> <li>Measurable line voltage between the line conductors</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> </ul>		
Curve shape of voltage     Buffering of measured variables     Parameter length     74 byte     Bandwidth of measured value acquisition     Z kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz Measuring range     Frequency measurement, min.     45 Hz     Frequency measurement, max.     65 Hz Measuring inputs for voltage     Measurable line voltage between phase and neutral conductor     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neutral conductor, min.     Measurable line voltage between phase and neu		
• Buffering of measured variablesYes• Parameter length74 byte• Bandwidth of measured value acquisition2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz• Measuring range Frequency measurement, min.45 Hz- Frequency measurement, max.65 HzMeasuring inputs for voltage Measurable line voltage between phase and neutral conductor277 V- Measurable line voltage between the line conductors480 V- Measurable line voltage between phase and neutral conductor, min.90 V- Measurable line voltage between phase and neutral conductor, min.903 V	•••	seamless
<ul> <li>Parameter length</li> <li>Bandwidth of measured value acquisition</li> <li>2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz</li> <li>Measuring range</li> <li>— Frequency measurement, min.</li> <li>45 Hz</li> <li>— Frequency measurement, max.</li> <li>65 Hz</li> <li>Measuring inputs for voltage</li> <li>— Measurable line voltage between phase and neutral conductor</li> <li>— Measurable line voltage between the line conductors</li> <li>— Measurable line voltage between phase and neutral conductor, min.</li> <li>— Measurable line voltage between phase and neutral conductor, min.</li> <li>— Measurable line voltage between phase and neutral conductor, min.</li> <li>— Measurable line voltage between phase and neutral conductor, min.</li> <li>— Measurable line voltage between phase and neutral conductor, min.</li> </ul>	Type of measured value acquisition	
Bandwidth of measured value acquisition     2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz     Measuring range     — Frequency measurement, min.     45 Hz     — Frequency measurement, max.     65 Hz     Measuring inputs for voltage     — Measurable line voltage between phase and     neutral conductor     — Measurable line voltage between the line     conductors     — Measurable line voltage between phase and     neutral conductor, min.     — Measurable line voltage between phase and     neutral conductor, min.     — Measurable line voltage between phase and     neutral conductor, min.     — Measurable line voltage between phase and     neutral conductor, min.     — Measurable line voltage between phase and     293 V	<ul><li>Type of measured value acquisition</li><li>Curve shape of voltage</li></ul>	Sinusoidal or distorted
Measuring range       45 Hz         — Frequency measurement, min.       65 Hz         Measuring inputs for voltage       65 Hz         Measuring inputs for voltage between phase and neutral conductor       277 V         — Measurable line voltage between the line conductors       480 V         — Measurable line voltage between phase and neutral conductor, min.       90 V         — Measurable line voltage between phase and neutral conductor, min.       90 V	<ul><li>Type of measured value acquisition</li><li>Curve shape of voltage</li><li>Buffering of measured variables</li></ul>	Sinusoidal or distorted Yes
— Frequency measurement, min.45 Hz— Frequency measurement, max.65 HzMeasuring inputs for voltage277 V— Measurable line voltage between phase and neutral conductor277 V— Measurable line voltage between the line conductors480 V— Measurable line voltage between phase and neutral conductor90 V— Measurable line voltage between phase and neutral conductor, min.90 V	<ul> <li>Type of measured value acquisition</li> <li>Curve shape of voltage</li> <li>Buffering of measured variables</li> <li>Parameter length</li> </ul>	Sinusoidal or distorted Yes 74 byte
— Frequency measurement, max.       65 Hz         Measuring inputs for voltage       277 V         — Measurable line voltage between phase and neutral conductor       277 V         — Measurable line voltage between the line conductors       480 V         — Measurable line voltage between phase and neutral conductor, min.       90 V         — Measurable line voltage between phase and neutral conductor, min.       90 V         — Measurable line voltage between phase and neutral conductor, min.       90 V	<ul> <li>Type of measured value acquisition</li> <li>Curve shape of voltage</li> <li>Buffering of measured variables</li> <li>Parameter length</li> <li>Bandwidth of measured value acquisition</li> </ul>	Sinusoidal or distorted Yes 74 byte
<ul> <li>Measurable line voltage between phase and neutral conductor</li> <li>Measurable line voltage between the line conductors</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and</li> <li>277 V</li> <li>480 V</li> <li>90 V</li> <li>Measurable line voltage between phase and</li> <li>293 V</li> </ul>	<ul> <li>Type of measured value acquisition</li> <li>Curve shape of voltage</li> <li>Buffering of measured variables</li> <li>Parameter length</li> <li>Bandwidth of measured value acquisition</li> <li>Measuring range</li> </ul>	Sinusoidal or distorted Yes 74 byte 2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz
neutral conductor       480 V         — Measurable line voltage between the line conductors       480 V         — Measurable line voltage between phase and neutral conductor, min.       90 V         — Measurable line voltage between phase and neutral conductor, min.       90 V	<ul> <li>Type of measured value acquisition</li> <li>Curve shape of voltage</li> <li>Buffering of measured variables</li> <li>Parameter length</li> <li>Bandwidth of measured value acquisition</li> <li>Measuring range</li> <li>— Frequency measurement, min.</li> </ul>	Sinusoidal or distorted Yes 74 byte 2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz 45 Hz
<ul> <li>Measurable line voltage between the line conductors</li> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and 293 V</li> </ul>	<ul> <li>Type of measured value acquisition</li> <li>Curve shape of voltage</li> <li>Buffering of measured variables</li> <li>Parameter length</li> <li>Bandwidth of measured value acquisition</li> <li>Measuring range</li> <li>— Frequency measurement, min.</li> <li>— Frequency measurement, max.</li> </ul>	Sinusoidal or distorted Yes 74 byte 2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz 45 Hz
conductors       90 V         neutral conductor, min.       92 V         — Measurable line voltage between phase and       92 V         293 V       293 V	<ul> <li>Type of measured value acquisition</li> <li>Curve shape of voltage</li> <li>Buffering of measured variables</li> <li>Parameter length</li> <li>Bandwidth of measured value acquisition</li> <li>Measuring range <ul> <li>Frequency measurement, min.</li> <li>Frequency measurement, max.</li> </ul> </li> <li>Measuring inputs for voltage <ul> <li>Measurable line voltage between phase and</li> </ul> </li> </ul>	Sinusoidal or distorted Yes 74 byte 2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz 45 Hz 65 Hz
<ul> <li>Measurable line voltage between phase and neutral conductor, min.</li> <li>Measurable line voltage between phase and 293 V</li> </ul>	<ul> <li>Type of measured value acquisition</li> <li>Curve shape of voltage</li> <li>Buffering of measured variables</li> <li>Parameter length</li> <li>Bandwidth of measured value acquisition</li> <li>Measuring range <ul> <li>Frequency measurement, min.</li> <li>Frequency measurement, max.</li> </ul> </li> <li>Measuring inputs for voltage <ul> <li>Measurable line voltage between phase and neutral conductor</li> </ul> </li> </ul>	Sinusoidal or distorted Yes 74 byte 2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz 45 Hz 65 Hz 277 V
neutral conductor, min. — Measurable line voltage between phase and 293 V	<ul> <li>Type of measured value acquisition</li> <li>Curve shape of voltage</li> <li>Buffering of measured variables</li> <li>Parameter length</li> <li>Bandwidth of measured value acquisition</li> <li>Measuring range <ul> <li>Frequency measurement, min.</li> <li>Frequency measurement, max.</li> </ul> </li> <li>Measuring inputs for voltage <ul> <li>Measurable line voltage between phase and neutral conductor</li> <li>Measurable line voltage between the line</li> </ul> </li> </ul>	Sinusoidal or distorted Yes 74 byte 2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz 45 Hz 65 Hz 277 V
— Measurable line voltage between phase and 293 V	<ul> <li>Type of measured value acquisition</li> <li>Curve shape of voltage</li> <li>Buffering of measured variables</li> <li>Parameter length</li> <li>Bandwidth of measured value acquisition</li> <li>Measuring range         <ul> <li>Frequency measurement, min.</li> <li>Frequency measurement, max.</li> </ul> </li> <li>Measuring inputs for voltage         <ul> <li>Measurable line voltage between phase and neutral conductor</li> <li>Measurable line voltage between the line conductors</li> </ul> </li> </ul>	Sinusoidal or distorted Yes 74 byte 2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz 45 Hz 65 Hz 277 V 480 V
	<ul> <li>Type of measured value acquisition</li> <li>Curve shape of voltage</li> <li>Buffering of measured variables</li> <li>Parameter length</li> <li>Bandwidth of measured value acquisition</li> <li>Measuring range <ul> <li>Frequency measurement, min.</li> <li>Frequency measurement, max.</li> </ul> </li> <li>Measuring inputs for voltage <ul> <li>Measurable line voltage between phase and neutral conductor</li> <li>Measurable line voltage between the line conductors</li> <li>Measurable line voltage between phase and</li> </ul> </li> </ul>	Sinusoidal or distorted Yes 74 byte 2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz 45 Hz 65 Hz 277 V 480 V
	<ul> <li>Type of measured value acquisition</li> <li>Curve shape of voltage</li> <li>Buffering of measured variables</li> <li>Parameter length</li> <li>Bandwidth of measured value acquisition</li> <li>Measuring range <ul> <li>Frequency measurement, min.</li> <li>Frequency measurement, max.</li> </ul> </li> <li>Measuring inputs for voltage <ul> <li>Measurable line voltage between phase and neutral conductor</li> <li>Measurable line voltage between the line conductors</li> <li>Measurable line voltage between phase and neutral conductors</li> <li>Measurable line voltage between phase and neutral conductors</li> </ul> </li> </ul>	Sinusoidal or distorted Yes 74 byte 2 kHz; Harmonics: 39 / 50 Hz, 32 / 60 Hz 45 Hz 65 Hz 277 V 480 V 90 V

<ul> <li>Measurable line voltage between the line conductors, min.</li> </ul>	155 V
- Measurable line voltage between the line	508 V
conductors, max.	24.00
<ul> <li>Internal resistance line conductor and neutral conductor</li> </ul>	3.4 MΩ
- Power consumption per phase	20 mW
<ul> <li>Impulse voltage resistance 1,2/50µs</li> </ul>	1 kV
— Measurement category for voltage	CAT II; CAT III in case of guaranteed protection level of 1.5 kV
measurement in accordance with IEC 61010-2- 030	
Measuring inputs for current	
— measurable relative current (AC), min.	1 %; Relative to the secondary rated current 5 A
— measurable relative current (AC), max.	100 %; Relative to the secondary rated current 5 A
- Continuous current with AC, maximum	5 A
permissible	0.01/4
<ul> <li>Apparent power consumption per phase for measuring range 5 A</li> </ul>	0.6 VA
— Rated value short-time withstand current	100 A
restricted to 1 s	
<ul> <li>Input resistance measuring range 0 to 5 A</li> </ul>	25 m $\Omega$ ; At the terminal
— Surge strength	10 A; for 1 minute
— Zero point suppression	Parameterizable: 2 250 mA, default 50 mA
Accuracy class according to IEC 61557-12	0.0
Measured variable voltage	0,2
Measured variable current     Measured variable apparent power	0,2 0.5
Measured variable apparent power	
<ul> <li>Measured variable reactive power</li> <li>Measured variable reactive power</li> </ul>	0.5 1
<ul> <li>Measured variable reactive power</li> <li>Measured variable power factor</li> </ul>	0.5
<ul> <li>Measured variable power factor</li> <li>Measured variable active energy</li> </ul>	0.5
Measured variable active energy     Measured variable reactive energy	1
Measured variable reactive energy     Measured variable neutral current	0.5; calculated
— Measured variable phase angle	±1 °; not covered by IEC 61557-12
— Measured variable frequency	0.05
— Measured variable frequency Potential separation	0.05
Potential separation	0.05
	0.05 No
Potential separation Potential separation channels	No
Potential separation Potential separation channels • between the channels	
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus	No
Potential separation Potential separation channels • between the channels • between the channels and backplane bus Isolation	No Yes; 3 700V AC (type test) CAT III
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus         Isolation         Isolation tested with	No Yes; 3 700V AC (type test) CAT III
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus         Isolation         Isolation tested with         Ambient conditions	No Yes; 3 700V AC (type test) CAT III
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus         Isolation         Isolation tested with         Ambient conditions         Ambient temperature during operation	No Yes; 3 700V AC (type test) CAT III 2 300V AC for 1 min. (type test)
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus         Isolation         Isolation tested with         Ambient conditions         Ambient temperature during operation         • horizontal installation, min.	No Yes; 3 700V AC (type test) CAT III 2 300V AC for 1 min. (type test) 0 °C 60 °C 0 °C
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus         Isolation         Isolation tested with         Ambient conditions         Ambient temperature during operation         • horizontal installation, min.         • vertical installation, min.         • vertical installation, max.	No Yes; 3 700V AC (type test) CAT III 2 300V AC for 1 min. (type test) 0 °C 60 °C
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus         Isolation         Isolation tested with         Ambient conditions         Ambient temperature during operation         • horizontal installation, min.         • vertical installation, min.         • vertical installation, max.         Altitude during operation relating to sea level	No Yes; 3 700V AC (type test) CAT III 2 300V AC for 1 min. (type test) 0 °C 60 °C 0 °C 50 °C
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus         Isolation         Isolation tested with         Ambient conditions         Ambient temperature during operation         • horizontal installation, min.         • vertical installation, min.         • vertical installation, max.         • vertical installation, max.         Altitude during operation relating to sea level         • Ambient air temperature-barometric pressure-	No Yes; 3 700V AC (type test) CAT III 2 300V AC for 1 min. (type test) 0 °C 60 °C 0 °C 50 °C 50 °C
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus         Isolation         Isolation tested with         Ambient conditions         Ambient temperature during operation         • horizontal installation, min.         • vertical installation, max.         • vertical installation, max.         Altitude during operation relating to sea level         • Ambient air temperature-barometric pressure-altitude	No Yes; 3 700V AC (type test) CAT III 2 300V AC for 1 min. (type test) 0 °C 60 °C 0 °C 50 °C
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus         Isolation         Isolation tested with         Ambient conditions         Ambient temperature during operation         • horizontal installation, min.         • horizontal installation, max.         • vertical installation, max.         • vertical installation, max.         Altitude during operation relating to sea level         • Ambient air temperature-barometric pressure- altitude         Dimensions	No Yes; 3 700V AC (type test) CAT III 2 300V AC for 1 min. (type test) 0 °C 60 °C 0 °C 50 °C 50 °C On request: Ambient temperatures lower than 0 °C (without condensation) and/or installation altitudes greater than 2 000 m
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus         Isolation         Isolation tested with         Ambient conditions         Ambient temperature during operation         • horizontal installation, min.         • horizontal installation, max.         • vertical installation, max.         • vertical installation, max.         Attitude during operation relating to sea level         • Ambient air temperature-barometric pressure- altitude         Dimensions         Width	No Yes; 3 700V AC (type test) CAT III 2 300V AC for 1 min. (type test) 0 °C 60 °C 0 °C 50 °C 50 °C On request: Ambient temperatures lower than 0 °C (without condensation) and/or installation altitudes greater than 2 000 m
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus         Isolation         Isolation tested with         Ambient conditions         Ambient temperature during operation         • horizontal installation, min.         • horizontal installation, max.         • vertical installation, max.         • vertical installation, max.         Attitude during operation relating to sea level         • Ambient air temperature-barometric pressure- altitude         Dimensions         Width         Height	No Yes; 3 700V AC (type test) CAT III 2 300V AC for 1 min. (type test) 0 °C 60 °C 0 °C 50 °C On request: Ambient temperatures lower than 0 °C (without condensation) and/or installation altitudes greater than 2 000 m 20 mm 73 mm
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus         Isolation         Isolation tested with         Ambient conditions         Ambient temperature during operation         • horizontal installation, min.         • horizontal installation, max.         • vertical installation, max.         • vertical installation, max.         Altitude during operation relating to sea level         • Ambient air temperature-barometric pressure- altitude         Dimensions         Width         Height         Depth	No Yes; 3 700V AC (type test) CAT III 2 300V AC for 1 min. (type test) 0 °C 60 °C 0 °C 50 °C 50 °C On request: Ambient temperatures lower than 0 °C (without condensation) and/or installation altitudes greater than 2 000 m
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus         Isolation         Isolation tested with         Ambient conditions         Ambient temperature during operation         • horizontal installation, min.         • horizontal installation, max.         • vertical installation, max.         • vertical installation, max.         Altitude during operation relating to sea level         • Ambient air temperature-barometric pressure- altitude         Dimensions         Width         Height         Depth         Weights	No Yes; 3 700V AC (type test) CAT III 2 300V AC for 1 min. (type test) 0 °C 60 °C 0 °C 50 °C On request: Ambient temperatures lower than 0 °C (without condensation) and/or installation altitudes greater than 2 000 m 20 mm 73 mm 58 mm
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus         Isolation         Isolation tested with         Ambient conditions         Ambient temperature during operation         • horizontal installation, min.         • horizontal installation, max.         • vertical installation, max.         • vertical installation, max.         Attitude during operation relating to sea level         • Ambient air temperature-barometric pressure- altitude         Dimensions         Width         Height         Depth         Weights         Weight, approx.	No Yes; 3 700V AC (type test) CAT III 2 300V AC for 1 min. (type test) 0 °C 60 °C 0 °C 50 °C On request: Ambient temperatures lower than 0 °C (without condensation) and/or installation altitudes greater than 2 000 m 20 mm 73 mm
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus         Isolation         Isolation tested with         Ambient conditions         Ambient temperature during operation         • horizontal installation, min.         • horizontal installation, max.         • vertical installation, max.         • vertical installation, max.         Altitude during operation relating to sea level         • Ambient air temperature-barometric pressure- altitude         Dimensions         Width         Height         Depth         Weights         Weight, approx.	No Yes; 3 700V AC (type test) CAT III 2 300V AC for 1 min. (type test) 0 °C 60 °C 0 °C 50 °C On request: Ambient temperatures lower than 0 °C (without condensation) and/or installation altitudes greater than 2 000 m 20 mm 73 mm 58 mm
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus         Isolation         Isolation tested with         Ambient conditions         Ambient temperature during operation         • horizontal installation, min.         • horizontal installation, max.         • vertical installation, max.         • vertical installation, max.         • vertical installation, max.         Altitude during operation relating to sea level         • Ambient air temperature-barometric pressure- altitude         Dimensions         Width         Height         Depth         Weights         Weight, approx.         Other         Data for selecting a voltage transformer	No Yes; 3 700V AC (type test) CAT III 2 300V AC for 1 min. (type test) 0 °C 60 °C 0 °C 50 °C 0 °C 50 °C On request: Ambient temperatures lower than 0 °C (without condensation) and/or installation altitudes greater than 2 000 m 20 mm 73 mm 58 mm
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus         Isolation         Isolation tested with         Ambient conditions         Ambient temperature during operation         • horizontal installation, min.         • horizontal installation, max.         • vertical installation, max.         • vertical installation, max.         Attitude during operation relating to sea level         • Ambient air temperature-barometric pressure- altitude         Dimensions         Width         Height         Depth         Weight, approx.         Other         Data for selecting a voltage transformer         • Secondary side, max.	No Yes; 3 700V AC (type test) CAT III 2 300V AC for 1 min. (type test) 0 °C 60 °C 0 °C 50 °C On request: Ambient temperatures lower than 0 °C (without condensation) and/or installation altitudes greater than 2 000 m 20 mm 73 mm 58 mm
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus         Isolation         Isolation tested with         Ambient conditions         Ambient temperature during operation         • horizontal installation, min.         • horizontal installation, max.         • vertical installation, max.         • vertical installation, max.         Altitude during operation relating to sea level         • Ambient air temperature-barometric pressure- altitude         Dimensions         Width         Height         Depth         Weights         Weight, approx.         Other         Data for selecting a voltage transformer         • Secondary side, max.	No Yes; 3 700V AC (type test) CAT III 2 300V AC for 1 min. (type test) 0 °C 60 °C 0 °C 50 °C On request: Ambient temperatures lower than 0 °C (without condensation) and/or installation altitudes greater than 2 000 m 20 mm 73 mm 58 mm 45 g
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus         Isolation         Isolation tested with         Ambient conditions         Ambient temperature during operation         • horizontal installation, min.         • horizontal installation, max.         • vertical installation, max.         • vertical installation, max.         Attitude during operation relating to sea level         • Ambient air temperature-barometric pressure- altitude         Dimensions         Width         Height         Depth         Weights         Weight, approx.         Other         Data for selecting a voltage transformer         • Secondary side, max.         Data for selecting a current transformer         • Burden power current transformer x/1A, min.	No Yes; 3 700V AC (type test) CAT III 2 300V AC for 1 min. (type test) 0 °C 60 °C 0 °C 50 °C 0 °C 50 °C 0 n request: Ambient temperatures lower than 0 °C (without condensation) and/or installation altitudes greater than 2 000 m 20 mm 73 mm 58 mm 45 g 296 V As a function of cable length and cross section, see device manual
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus         Isolation         Isolation tested with         Ambient conditions         Ambient temperature during operation         • horizontal installation, min.         • horizontal installation, max.         • vertical installation, max.         • vertical installation, max.         Altitude during operation relating to sea level         • Ambient air temperature-barometric pressure- altitude         Dimensions         Width         Height         Depth         Weights         Weight, approx.         Other         Data for selecting a voltage transformer         • Secondary side, max.	No Yes; 3 700V AC (type test) CAT III 2 300V AC for 1 min. (type test) 0 °C 60 °C 0 °C 50 °C On request: Ambient temperatures lower than 0 °C (without condensation) and/or installation altitudes greater than 2 000 m 20 mm 73 mm 58 mm 45 g
Potential separation         Potential separation channels         • between the channels         • between the channels and backplane bus         Isolation         Isolation tested with         Ambient conditions         Ambient temperature during operation         • horizontal installation, min.         • horizontal installation, max.         • vertical installation, max.         • vertical installation, max.         Attitude during operation relating to sea level         • Ambient air temperature-barometric pressure- altitude         Dimensions         Width         Height         Depth         Weights         Weight, approx.         Other         Data for selecting a voltage transformer         • Secondary side, max.         Data for selecting a current transformer         • Burden power current transformer x/1A, min.	No         Yes; 3 700V AC (type test) CAT III         2 300V AC for 1 min. (type test)         0 °C         60 °C         0 °C         50 °C         O °C         50 °C         On request: Ambient temperatures lower than 0 °C (without condensation) and/or installation altitudes greater than 2 000 m         20 mm         73 mm         58 mm         45 g         296 V         As a function of cable length and cross section, see device manual