



<ul style="list-style-type: none"> <li>• Switching between operating modes in RUN</li> </ul>	Yes; For module version 32 I/20 Q, it is possible to dynamically switch between 25 user data variants, 23 of which are pre-defined and 2 of which can be defined by the specific user
<ul style="list-style-type: none"> <li>• Cyclic measured value access</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Acyclic measured value access</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Fixed measured value sets</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Freely definable measured value sets</li> </ul>	Yes; For cyclic and acyclic measured value access
<b>CiR - Configuration in RUN</b>	
Reparameterization possible in RUN	Yes
Calibration possible in RUN	Yes
<b>Installation type/mounting</b>	
Mounting position	any
<b>Supply voltage</b>	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
<b>Input current</b>	
Current consumption (rated value)	12.5 mA
Current consumption, max.	17 mA
<b>Power loss</b>	
Power loss, typ.	1.4 W; 4x 6 A input current, 3x 230 V AC
<b>Address area</b>	
Address space per module	
<ul style="list-style-type: none"> <li>• Inputs</li> </ul>	256 byte
<ul style="list-style-type: none"> <li>• Outputs</li> </ul>	20 byte
<b>Hardware configuration</b>	
Automatic encoding	Yes
<ul style="list-style-type: none"> <li>• Mechanical coding element</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Type of mechanical coding element</li> </ul>	C
<b>Selection of BaseUnit for connection variants</b>	
<ul style="list-style-type: none"> <li>• 2-wire connection</li> </ul>	BU type U0
<b>Time of day</b>	
Operating hours counter	
<ul style="list-style-type: none"> <li>• present</li> </ul>	Yes
<b>Analog inputs</b>	
Cycle time (all channels), typ.	50 ms; Time for consistent update of all measured and calculated values (cyclic und acyclic data)
<b>Cable length</b>	
<ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>	200 m
<ul style="list-style-type: none"> <li>• unshielded, max.</li> </ul>	200 m
<b>Analog value generation for the inputs</b>	
Sampling frequency, max.	2 048 kHz
<b>Interrupts/diagnostics/status information</b>	
<b>Alarms</b>	
<ul style="list-style-type: none"> <li>• Diagnostic alarm</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Limit value alarm</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Hardware interrupt</li> </ul>	Yes; Monitoring of up to 16 freely selectable process values (exceeding or undershooting of value)
<b>Diagnoses</b>	
<ul style="list-style-type: none"> <li>• Line quality</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Supply voltage</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Hardware interrupt lost</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Parameter assignment error</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Module fault</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Channel not available</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Overflow/underflow</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Overload current</li> </ul>	Yes
<b>Diagnostics indication LED</b>	
<ul style="list-style-type: none"> <li>• Monitoring of the supply voltage (PWR-LED)</li> </ul>	Yes

• Channel status display	Yes; green LED
• for channel diagnostics	Yes; red Fn LED
• for module diagnostics	Yes; green/red DIAG LED

## Integrated Functions

<b>Measuring functions</b>	
• 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	128 byte
• Bandwidth of measured value acquisition	3.2 kHz; Harmonics: 63 / 50 Hz, 52 / 60 Hz
<b>Measuring range</b>	
— Frequency measurement, min.	40 Hz
— Frequency measurement, max.	70 Hz
<b>Measuring inputs for voltage</b>	
— 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.	3 V
— Measurable line voltage between phase and neutral conductor, max.	300 V
— Measurable line voltage between the line conductors, min.	6 V
— Measurable line voltage between the line conductors, max.	519 V
— Internal resistance line conductor and neutral conductor	1.5 MΩ
— Power consumption per phase	60 mW; 300 V AC
— Impulse voltage resistance 1,2/50μs	2.5 kV
— Measurement category for voltage measurement in accordance with IEC 61010-2-030	CAT II
<b>Measuring inputs for current</b>	
— measurable relative current (AC), min.	1 %; Relative to measuring range; 1 A, 5 A
— measurable relative current (AC), max.	120 %; Relative to the secondary rated current 5 A
— Continuous current with AC, maximum permissible	5 A; 6 A permanent thermal overload
— Apparent power consumption per phase for measuring range 5 A	0.6 V·A
— Rated value short-time withstand current restricted to 1 s	100 A
— Input resistance measuring range 0 to 5 A	25 mΩ; At the terminal
— Surge strength	10 A; for 1 minute
— Zero point suppression	0 ... 20%, referred to the nominal current
<b>Accuracy class according to IEC 61557-12</b>	
— Measured variable voltage	0,2
— Measured variable current	0,2
— Measured variable apparent power	0.5
— Measured variable active power	0.5
— Measured variable reactive power	1
— Measured variable power factor	0.5
— Measured variable active energy	0.5
— Measured variable reactive energy	1
— Measured variable neutral current	0,2
— Measured variable phase angle	±0.5 °; not covered by IEC 61557-12
— Measured variable frequency	0.05; only valid for the permissible voltage measuring range
— Measured variable harmonic	1
— Measured variable THDU	1
— Measured variable THDI	1
Accuracy class line analysis acc. to IEC 61000-4-30	

— Measured variable voltage	Class S
— Measured variable current	Class S
— Measured variable frequency	Class S
— Measured variable voltage interruption	Class S
— Measured variable voltage dip and swell	Class S
— Measured variable harmonic voltage	Class S
— Measured variable harmonic current	Class S

#### Potential separation

##### Potential separation channels

• between the channels	No
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	Yes; Including FE

#### Isolation

Isolation tested with	Between channels and backplane bus, 24 V supply: Routine test, 1 920 V AC, 2 s; between backplane bus and 24 V supply: Type test, 707 V DC
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#### Ambient conditions

##### Ambient temperature during operation

• horizontal installation, min.	-30 °C
• horizontal installation, max.	60 °C
• vertical installation, min.	-30 °C
• vertical installation, max.	50 °C

##### Altitude during operation relating to sea level

• Installation altitude above sea level, max.	3 000 m; Restrictions for installation altitudes > 2 000 m, see manual
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#### Dimensions

Width	20 mm
Height	73 mm
Depth	58 mm

#### Weights

Weight, approx.	45 g
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#### Other

##### Data for selecting a voltage transformer

• Secondary side, max.	300 V
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##### Data for selecting a current transformer

• Burden power current transformer x/1A, min.	As a function of cable length and cross section, see device manual
• Burden power current transformer x/5A, min.	As a function of cable length and cross section, see device manual

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