## **Data sheet**

## 7KM4220-1BA01-1EA0



SENTRON PAC4220, Power Monitoring Device with color graphic TFT display PMD-III acc. to IEC61557-12 active energy class 0.2 (class 0.2S acc. to IEC62053-22) 96 x 96 mm, 3-phase, 45 - 65 Hz Ue rated: 690/400 V le rated: x/1A or x/5A DC extra-low voltage power supply unit 24 to 48 V +-25% screw terminal connection control panel instrument with measurement of electrical variables apparent / active / reactive energy / cos phi / THDu / THDi / even and odd harmonics per phase up to 64.

Model	
product brand name	SENTRON
product designation	Measuring device for power system quality measurement
product type designation	7KM PAC4220
Measurements	
measuring procedure	
<ul> <li>for voltage measurement</li> </ul>	TRMS
for current measurement	TRMS
type of measured value detection	complete
voltage curve	Sinusoidal or distorted
measurable line frequency	
• initial value	45 Hz
full-scale value	65 Hz
operating mode for measured value detection automatic line frequency detection	Yes
operating mode for measured value detection	
• set at 50 Hz	No
• set to 60 Hz	No
Supply voltage	
design of the power supply	Extra-low voltage power supply unit
type of voltage of the supply voltage	DC
supply voltage at DC	18 60 V
apparent power consumption of the power supply	9 VA
Degree of protection protection class	
protection class IP on the front	IP65
protection class IP of the terminal	IP20
operating resource protection class when installed	
Suitability	
suitability for operation	Installation in stationary panels in closed rooms
Product Functions	
product function	
<ul> <li>voltage measurement</li> </ul>	Yes
<ul> <li>current measurement</li> </ul>	Yes
<ul> <li>active power measurement</li> </ul>	Yes
<ul> <li>reactive power measurement</li> </ul>	Yes
<ul> <li>power factor measurement</li> </ul>	Yes
<ul> <li>frequency measurement</li> </ul>	Yes
apparent energy/active energy/reactive energy	Yes
Display and operation	
design of the display	color graphics TFT

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height of the display	54 mm
width of the display	72 mm
color of the background of the display	white
illuminance of display backlight adjustable	Yes
time-controlled reduction of the illuminance of display backlight possible	Yes
display contrast adjustable	Yes
national language on the display screen is supported	ger, en, fr, spa, ita, por, tur, rus, chi, pol
number of keys	4
Communication	
transfer rate minimum	10 000 kbit/s
transfer rate maximum	100 000 kbit/s
number of interfaces according to Fast Ethernet	2
type of electrical connection of the fast Ethernet interface	2 x RJ45
protocol at the Ethernet interface is supported	MODBUS TCP
transfer rate 1 for Ethernet	10 Mbit/s
transfer rate 2 for Ethernet	100 Mbit/s
Fault limits	
reference condition for metering accuracy	according to IEC61557-12
formula for relative total measurement inaccuracy	
<ul> <li>for measured variable voltage</li> </ul>	+/- 0.2 %
<ul> <li>for measured variable current</li> </ul>	+/- 0.2 %
<ul> <li>for measured variable apparent power</li> </ul>	+/- 0.5 %
<ul> <li>for measured variable active power</li> </ul>	+/- 0.2 %
<ul> <li>for measured variable reactive power</li> </ul>	+/- 0.5 %
<ul> <li>for measured variable output factor</li> </ul>	+/- 0,5 %
for measured variable active energy	Class 0.2 according to IEC61557-12 and/or class 0.2S according to IEC62053- 22
<ul> <li>for measured variable reactive energy</li> </ul>	class 0.5 acc. to IEC61557-12 or IEC62053-23
for measured variable THD	+/- 2 %
Inputs Outputs	
number of digital inputs	2
number of digital inputs design of the switching input	2 electronic, passive
number of digital inputs design of the switching input type of electrical connection at the digital inputs	electronic, passive screw-type terminals
number of digital inputs design of the switching input type of electrical connection at the digital inputs operating conditions for digital inputs external voltage supply	electronic, passive screw-type terminals Yes
number of digital inputs design of the switching input type of electrical connection at the digital inputs operating conditions for digital inputs external voltage supply input voltage at digital input at DC maximum	electronic, passive screw-type terminals Yes 30 V
number of digital inputs design of the switching input type of electrical connection at the digital inputs operating conditions for digital inputs external voltage supply input voltage at digital input at DC maximum number of digital outputs	electronic, passive screw-type terminals Yes 30 V
number of digital inputs design of the switching input type of electrical connection at the digital inputs operating conditions for digital inputs external voltage supply input voltage at digital input at DC maximum number of digital outputs type of switching output	electronic, passive screw-type terminals Yes 30 V 2 electronic, passive
number of digital inputs design of the switching input type of electrical connection at the digital inputs operating conditions for digital inputs external voltage supply input voltage at digital input at DC maximum number of digital outputs type of switching output digital output version	electronic, passive screw-type terminals Yes 30 V 2 electronic, passive switching or pulse output function
number of digital inputs design of the switching input type of electrical connection at the digital inputs operating conditions for digital inputs external voltage supply input voltage at digital input at DC maximum number of digital outputs type of switching output digital output version operating voltage as output voltage at DC maximum permissible	electronic, passive screw-type terminals Yes 30 V 2 electronic, passive switching or pulse output function 30 V
number of digital inputs design of the switching input type of electrical connection at the digital inputs operating conditions for digital inputs external voltage supply input voltage at digital input at DC maximum number of digital outputs type of switching output digital output version operating voltage as output voltage at DC maximum permissible type of electrical connection at the digital outputs	electronic, passive screw-type terminals Yes 30 V 2 electronic, passive switching or pulse output function
number of digital inputs design of the switching input type of electrical connection at the digital inputs operating conditions for digital inputs external voltage supply input voltage at digital input at DC maximum number of digital outputs type of switching output digital output version operating voltage as output voltage at DC maximum permissible type of electrical connection at the digital outputs output current	electronic, passive screw-type terminals Yes 30 V 2 electronic, passive switching or pulse output function 30 V screw-type terminals
number of digital inputs design of the switching input type of electrical connection at the digital inputs operating conditions for digital inputs external voltage supply input voltage at digital input at DC maximum number of digital outputs type of switching output digital output version operating voltage as output voltage at DC maximum permissible type of electrical connection at the digital outputs output current  • at digital output with signal <0> maximum	electronic, passive screw-type terminals Yes 30 V 2 electronic, passive switching or pulse output function 30 V screw-type terminals
number of digital inputs design of the switching input type of electrical connection at the digital inputs operating conditions for digital inputs external voltage supply input voltage at digital input at DC maximum number of digital outputs type of switching output digital output version operating voltage as output voltage at DC maximum permissible type of electrical connection at the digital outputs output current  • at digital output with signal <0> maximum • at digital output for signal <1> maximum	electronic, passive screw-type terminals Yes 30 V 2 electronic, passive switching or pulse output function 30 V screw-type terminals  0.2 mA 50 mA
number of digital inputs  design of the switching input  type of electrical connection at the digital inputs  operating conditions for digital inputs external voltage supply  input voltage at digital input at DC maximum  number of digital outputs  type of switching output  digital output version  operating voltage as output voltage at DC maximum permissible  type of electrical connection at the digital outputs  output current  • at digital output with signal <0> maximum  • at digital output for signal <1> maximum  • at the digital outputs at DC limited to 100 ms maximum	electronic, passive screw-type terminals Yes 30 V 2 electronic, passive switching or pulse output function 30 V screw-type terminals  0.2 mA 50 mA 130 mA
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number of digital inputs  design of the switching input  type of electrical connection at the digital inputs  operating conditions for digital inputs external voltage supply input voltage at digital input at DC maximum  number of digital outputs  type of switching output  digital output version  operating voltage as output voltage at DC maximum permissible  type of electrical connection at the digital outputs  output current  • at digital output with signal <0> maximum  • at digital output for signal <1> maximum  • at the digital outputs at DC limited to 100 ms maximum  internal resistance at the digital outputs  standard for pulse emitter  pulse duration  • initial value	electronic, passive screw-type terminals Yes 30 V 2 electronic, passive switching or pulse output function 30 V screw-type terminals  0.2 mA 50 mA 130 mA 30 Ω according to IEC62053-31
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number of digital inputs  design of the switching input  type of electrical connection at the digital inputs  operating conditions for digital inputs external voltage supply input voltage at digital input at DC maximum  number of digital outputs  type of switching output  digital output version  operating voltage as output voltage at DC maximum permissible  type of electrical connection at the digital outputs  output current  • at digital output with signal <0> maximum  • at digital output for signal <1> maximum  • at the digital outputs at DC limited to 100 ms maximum  internal resistance at the digital outputs  standard for pulse emitter  pulse duration  • initial value  • full-scale value  adjustable time period minimum  switching frequency at digital output maximum	electronic, passive screw-type terminals  Yes 30 V 2 electronic, passive switching or pulse output function 30 V screw-type terminals  0.2 mA 50 mA 130 mA 30 Ω according to IEC62053-31  30 ms 500 ms 10 ms 20 Hz
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<ul> <li>at the measurement inputs for voltage finely stranded with core end processing</li> <li>at the measurement inputs for voltage for AWG cables solid</li> <li>at the measurement inputs for current solid</li> <li>at the measurement inputs for current finely stranded with core end processing</li> <li>at the measurement inputs for current for AWG cables solid</li> <li>at the measurement inputs for current for AWG cables solid</li> <li>at the measurement inputs for voltage</li> </ul>	MΩ II 6 0 %
voltage measuring range extension with external voltage transformers  line conductors and neutral conductors internal resistance for voltage measurement  measuring category for voltage measurement  • 1 at AC rated value  • 2 at AC rated value  relative measurable current at AC  • minimum  • maximum  current measuring range extension with external current transformers  zero point suppression for current measurement  • with measuring range extension with external current apparent power consumption for current measurement  • with measuring range 5 A per phase  measuring category for current measurement  • with measuring range 5 A per phase  measuring category for current measurement  • at the measurement inputs for voltage solid  • at the measurement inputs for voltage finely stranded with core end processing  • at the measurement inputs for current solid  • at the measurement inputs for current finely stranded with core end processing  • at the measurement inputs for current for AWG cables solid  • at the measurement inputs for current for AWG cables solid  type of electrical connection  • at the measurement inputs for current for AWG cables solid  * at the measurement inputs for current for AWG cables solid  * at the measurement inputs for current for AWG cables solid  * at the measurement inputs for current for AWG cables solid  * at the measurement inputs for current for AWG cables solid  * at the measurement inputs for current for AWG cables solid  * at the measurement inputs for current for AWG cables solid  * at the measurement inputs for current for AWG cables solid  * at the measurement inputs for current for AWG cables solid  * at the measurement inputs for current for AWG cables solid  * at the measurement inputs for current for AWG cables solid  * at the measurement inputs for current for AWG cables solid  * at the measurement inputs for current for AWG cables solid  * * **To Control **T	MΩ II 6 0 %
iline conductors and neutral conductors internal resistance for voltage measurement measuring category for voltage measurement  • 1 at AC rated value • 2 at AC rated value • 2 at AC rated value • maximum  • maximum  current measuring range extension with external current transformers  zero point suppression for current measurement • with measuring range 5 A per phase measuring category for current measurement • with measuring range 5 A per phase measuring category for current measurement • with measuring range 5 A per phase  measuring category for current measurement • at the measurement inputs for voltage solid • at the measurement inputs for voltage finely stranded with core end processing • at the measurement inputs for current solid • at the measurement inputs for current finely stranded with core end processing • at the measurement inputs for current for AWG cables solid • at the measurement inputs for current for AWG cables solid type of electrical connection • at the measurement inputs for current for AWG cables solid type of electrical connection • at the measurement inputs for current for AWG cables solid type of Power Monitoring Device • at the measurement inputs for current  Mochanical Dosign fastening method standard rail mounting size of Power Monitoring Device height width depth installation depth net weight mounting position  Environmental conditions  ambient temperature during operation • minimum • maximum  relative humidity at 25 °C without condensation during operation maximum  relative humidity at 25 °C without condensation during operation maximum	II 5 0 %
voltage measurement measuring category for voltage measurement  • 1 at AC rated value • 2 at AC rated value • maximum • maximum • maximum • maximum • maximum • with measuring range extension with external current transformers  zero point suppression for current measurement • with measuring range 5 A per phase measuring category for current measurement • with measuring range 5 A per phase measuring category for current measurement • at the measurement inputs for voltage solid • at the measurement inputs for voltage finely stranded with core end processing • at the measurement inputs for voltage finely stranded with core end processing • at the measurement inputs for current solid • at the measurement inputs for current finely stranded with core end processing • at the measurement inputs for current for AWG cables solid • at the measurement inputs for current for AWG cables solid • at the measurement inputs for current for AWG cables solid  type of electrical connection • at the measurement inputs for current for AWG cables solid  type of electrical connection • at the measurement inputs for current for AWG cables solid  type of Power Monitoring Device • at the measurement inputs for current  Mechanical Design fastening method standard rail mounting size of Power Monitoring Device height width depth  fastening method standard rail mounting size of Power Monitoring Device height width depth  fastening method standard rail mounting size of Power Monitoring Device height mounting position  Environmental conditions  ambient temperature during operation • minimum • maximum  - 25 ° cminimum • maximum  relative humidity at 25 °C without condensation during operation maximum  - 25 ° cminimum • maximum  - 25 ° cminimum • maximum - 25 ° cminimum • maximum - 25 ° cminimum	II 5 0 %
measurable current  • 1 at AC rated value • 2 at AC rated value • 2 at AC rated value • 2 at AC rated value • 1 % relative measurable current at AC • minimum • maximum  • maximum  • maximum  current measuring range extension with external current transformers  zero point suppression for current measurement • with measuring range 5 A per phase measuring category for current measurement • with measuring range 5 A per phase  measuring category for current measurement  CATI  Connections  type of connectable conductor cross-sections • at the measurement inputs for voltage solid • at the measurement inputs for voltage finely stranded with core end processing • at the measurement inputs for current solid • at the measurement inputs for current solid • at the measurement inputs for current finely stranded with core end processing • at the measurement inputs for current for AWG cables solid  type of electrical connection • at the measurement inputs for current for AWG cables solid  type of electrical connection • at the measurement inputs for current  mechanical Design  fastening method standard rail mounting size of Power Monitoring Device height width depth installation depth net weight mounting position  Environmental conditions ambient temperature during operation • minimum • maximum  • maximum  relative humidity at 25 °C without condensation during operation  maximum  relative humidity at 25 °C without condensation during operation  maximum  relative humidity at 25 °C without condensation during operation  maximum	5 0 %
• 1 at AC rated value • 2 at AC rated value • 2 at AC rated value relative measurable current at AC • minimum • maximum 120 or current measuring range extension with external current transformers  zero point suppression for current measurement • with measuring range 5 A per phase measuring category for current measurement • with measurement inputs for voltage solid • at the measurement inputs for voltage finely stranded with core end processing • at the measurement inputs for voltage finely stranded with core end processing • at the measurement inputs for current solid • at the measurement inputs for current finely stranded with core end processing • at the measurement inputs for current for AWG cables solid • at the measurement inputs for current for AWG cables solid  type of electrical connection • at the measurement inputs for current for AWG cables solid  type of electrical connection • at the measurement inputs for current for AWG cables solid  type of electrical connection • at the measurement inputs for current for AWG cables solid  type of electrical connection • at the measurement inputs for outrage • at the measurement inputs for current  Mechanical Design  fastening method standard rail mounting size of Power Monitoring Device height width depth installation depth net weight mounting position  Environmental conditions  ambient temperature during operation • minimum • maximum  • maximum  • maximum  relative humidity at 25 °C without condensation during operation  maximum  relative humidity at 25 °C without condensation during operation  maximum	0 % A
e 2 at AC rated value relative measurable current at AC e minimum e maximum 120 or current measuring range extension with external current transformers zero point suppression for current measurement apparent power consumption for current measurement e with measuring range 5 A per phase measuring category for current measurement  • with measurement inputs for voltage solid • at the measurement inputs for voltage finely stranded with core end processing • at the measurement inputs for current finely stranded with core end processing • at the measurement inputs for current finely stranded with core end processing • at the measurement inputs for current solid • at the measurement inputs for current finely stranded with core end processing • at the measurement inputs for current for AWG cables solid  type of electrical connection • at the measurement inputs for current for AWG cables solid  type of electrical connection • at the measurement inputs for current for AWG cables solid  type of electrical connection • at the measurement inputs for voltage • at the measurement inputs for current  Mechanical Design  fastening method standard rail mounting size of Power Monitoring Device height width depth for minimum  • maximum  relative humidity at 25 °C without condensation during operation  maximum  relative humidity at 25 °C without condensation during operation  maximum	0 % A
relative measurable current at AC  • minimum  • maximum  120 or current measuring range extension with external current transformers zero point suppression for current measurement  • with measuring range 5 A per phase  • with measuring range 5 A per phase  measuring category for current measurement  • with measuring range 5 A per phase  type of connectable conductor cross-sections  • at the measurement inputs for voltage solid  • at the measurement inputs for voltage finely stranded with core end processing  • at the measurement inputs for current solid  • at the measurement inputs for current finely stranded with core end processing  • at the measurement inputs for current for AWG cables solid  • at the measurement inputs for current for AWG cables solid  • at the measurement inputs for current for AWG cables solid  type of electrical connection  • at the measurement inputs for current for AWG cables solid  type of electrical connection  • at the measurement inputs for current for AWG cables solid  type of electrical connection  • at the measurement inputs for current  Mechanical Design  fastening method standard rail mounting  No size of Power Monitoring Device  height  width  depth  installation depth  net weight  mounting position  Environmental conditions  ambient temperature during operation  • minimum  • maximum  relative humidity at 25 °C without condensation during operation  maximum  relative humidity at 25 °C without condensation during operation  maximum	0 % A
minimum maximum maxim	0 % A
current measuring range extension with external current transformers  zero point suppression for current measurement  apparent power consumption for current measurement  • with measuring range 5 A per phase  measuring category for current measurement  Connections  type of connectable conductor cross-sections  • at the measurement inputs for voltage solid  • at the measurement inputs for voltage finely stranded with core end processing  • at the measurement inputs for voltage for AWG cables solid  • at the measurement inputs for current solid  • at the measurement inputs for current finely stranded with core end processing  • at the measurement inputs for current for AWG cables solid  • at the measurement inputs for current for AWG cables solid  type of electrical connection  • at the measurement inputs for current for AWG cables solid  type of electrical connection  • at the measurement inputs for current for AWG cables solid  type of electrical connection  • at the measurement inputs for current  **Mechanical Design**  fastening method standard rail mounting  size of Power Monitoring Device  height  width  depth  fastening method standard rail mounting  size of Power Monitoring Device  height  width  depth  for mounting position  Environmental conditions  ambient temperature during operation  • minimum  • maximum  • maximum  • maximum  • maximum  • maximum  • maximum  relative humidity at 25 °C without condensation during operation  maximum  70 °C  75 %	0 % A
current measuring range extension with external current transformers  zero point suppression for current measurement  apparent power consumption for current measurement  • with measuring range 5 A per phase  measuring category for current measurement  Connections  type of connectable conductor cross-sections  • at the measurement inputs for voltage solid  • at the measurement inputs for voltage finely stranded with core end processing  • at the measurement inputs for current solid  • at the measurement inputs for current finely stranded with core end processing  • at the measurement inputs for current finely stranded with core end processing  • at the measurement inputs for current for AWG cables solid  type of electrical connection  • at the measurement inputs for current for AWG cables solid  type of electrical connection  • at the measurement inputs for current with carrent solid  type of electrical connection  • at the measurement inputs for current for AWG cables solid  type of electrical connection  • at the measurement inputs for current  **Crew Mechanical Design**  fastening method standard rail mounting  No size of Power Monitoring Device  height  width  96 m  width  96 m  installation depth  net weight  mounting position  Environmental conditions  ambient temperature during operation  • minimum  • maximum  • maximum  • maximum  • maximum  relative humidity at 25 °C without condensation during operation  maximum  relative humidity at 25 °C without condensation during operation  maximum	0 % A
transformers  zero point suppression for current measurement apparent power consumption for current measurement • with measuring range 5 A per phase measuring category for current measurement  Connections  type of connectable conductor cross-sections • at the measurement inputs for voltage solid • at the measurement inputs for voltage finely stranded with core end processing • at the measurement inputs for voltage for AWG cables solid • at the measurement inputs for current solid • at the measurement inputs for current finely stranded with core end processing • at the measurement inputs for current for AWG cables solid  type of electrical connection • at the measurement inputs for current for AWG cables solid  type of electrical connection • at the measurement inputs for current • at the measurement inputs for current  Mechanical Design  fastening method standard rail mounting size of Power Monitoring Device height width 96 m installation depth 15 m net weight mounting position  Environmental conditions ambient temperature during operation • minimum • maximum  mabient temperature during storage • minimum • maximum  maximum  relative humidity at 25 °C without condensation during operation maximum  70 °C  75 %	4
apparent power consumption for current measurement  • with measuring range 5 A per phase  measuring category for current measurement  CATI  Connections  type of connectable conductor cross-sections  • at the measurement inputs for voltage solid • at the measurement inputs for voltage finely stranded with core end processing • at the measurement inputs for current solid • at the measurement inputs for current solid • at the measurement inputs for current finely stranded with core end processing • at the measurement inputs for current for AWG cables solid  type of electrical connection • at the measurement inputs for current for AWG cables solid  type of electrical connection • at the measurement inputs for voltage • at the measurement inputs for current  Mechanical Design fastening method standard rail mounting  No size of Power Monitoring Device height  width depth installation depth net weight mounting position  Environmental conditions  ambient temperature during operation • minimum • maximum  • maximum  • maximum  relative humidity at 25 °C without condensation during operation maximum  relative humidity at 25 °C without condensation during operation maximum  75 %	4
with measuring range 5 A per phase     measuring category for current measurement  CATI  Connections  type of connectable conductor cross-sections	
measuring category for current measurement  Connections  type of connectable conductor cross-sections  • at the measurement inputs for voltage solid • at the measurement inputs for voltage finely stranded with core end processing • at the measurement inputs for voltage for AWG cables solid • at the measurement inputs for current solid • at the measurement inputs for current finely stranded with core end processing • at the measurement inputs for current finely stranded with core end processing • at the measurement inputs for current for AWG cables solid  type of electrical connection • at the measurement inputs for voltage • at the measurement inputs for current  Mechanical Design  fastening method standard rail mounting  size of Power Monitoring Device  height width depth installation depth net weight mounting position  Environmental conditions  ambient temperature during operation • minimum • maximum  maximum  -25° -25° -25° -25° -25° -25° -25° -25	
type of connectable conductor cross-sections  • at the measurement inputs for voltage solid • at the measurement inputs for voltage finely stranded with core end processing • at the measurement inputs for voltage for AWG cables solid • at the measurement inputs for current solid • at the measurement inputs for current finely stranded with core end processing • at the measurement inputs for current finely stranded with core end processing • at the measurement inputs for current for AWG cables solid  type of electrical connection • at the measurement inputs for voltage • at the measurement inputs for current  Mechanical Design  fastening method standard rail mounting  No size of Power Monitoring Device height width genth depth for mounting position  Environmental conditions  ambient temperature during operation • minimum • maximum  ambient temperature during storage • minimum • maximum  relative humidity at 25 °C without condensation during operation maximum  relative humidity at 25 °C without condensation during operation maximum  70 °C  75 %	
type of connectable conductor cross-sections  • at the measurement inputs for voltage solid • at the measurement inputs for voltage finely stranded with core end processing • at the measurement inputs for voltage for AWG cables solid • at the measurement inputs for current solid • at the measurement inputs for current finely stranded with core end processing • at the measurement inputs for current for AWG cables solid  type of electrical connection • at the measurement inputs for voltage • at the measurement inputs for current  **Constant Inputs**  **Mechanical Design**  fastening method standard rail mounting  size of Power Monitoring Device height width ge m  width ge m  depth installation depth net weight mounting position  **Environmental conditions**  ambient temperature during operation • minimum • maximum  ambient temperature during storage • minimum • maximum  relative humidity at 25 °C without condensation during operation maximum  **To %**  75 %**  **Constant Inputs**  **To Note the measurement inputs for voltage screw	
at the measurement inputs for voltage solid at the measurement inputs for voltage finely stranded with core end processing at the measurement inputs for voltage for AWG cables solid at the measurement inputs for current solid at the measurement inputs for current finely stranded with core end processing at the measurement inputs for current finely stranded with core end processing at the measurement inputs for current for AWG cables solid  type of electrical connection at the measurement inputs for voltage at the measurement inputs for current  wechanical Design fastening method standard rail mounting size of Power Monitoring Device height width depth installation depth net weight mounting position  Environmental conditions  ambient temperature during operation minimum m	
at the measurement inputs for voltage finely stranded with core end processing  at the measurement inputs for voltage for AWG cables solid  at the measurement inputs for current solid  at the measurement inputs for current finely stranded with core end processing  at the measurement inputs for current for AWG cables solid  type of electrical connection  at the measurement inputs for voltage  at the measurement inputs for current  type of electrical connection  at the measurement inputs for current  Mechanical Design  fastening method standard rail mounting  size of Power Monitoring Device  height  width  depth  installation depth  net weight  mounting position  Environmental conditions  ambient temperature during operation  minimum  maximum  maximum  maximum  relative humidity at 25 °C without condensation during operation  maximum  relative humidity at 25 °C without condensation during operation  75 %	
core end processing  at the measurement inputs for voltage for AWG cables solid  at the measurement inputs for current solid  at the measurement inputs for current finely stranded with core end processing  at the measurement inputs for current for AWG cables solid  type of electrical connection  at the measurement inputs for voltage  at the measurement inputs for current  eat the measurement inputs for current  Mechanical Design  fastening method standard rail mounting  size of Power Monitoring Device  height  width  depth  installation depth  net weight  mounting position  Environmental conditions  ambient temperature during operation  minimum  maximum  maximum  relative humidity at 25 °C without condensation during operation  maximum  relative humidity at 25 °C without condensation during operation  maximum  75 %	2 6 mm²), 2x (0.2 1.5 mm²)
solid  at the measurement inputs for current solid  at the measurement inputs for current finely stranded with core end processing  at the measurement inputs for current for AWG cables solid  type of electrical connection  at the measurement inputs for voltage  at the measurement inputs for current  eat the measurement inputs for current  Mechanical Design  fastening method standard rail mounting  size of Power Monitoring Device  height  width  depth  installation depth  net weight  mounting position  Environmental conditions  ambient temperature during operation  minimum  maximum  maximum  maximum  maximum  relative humidity at 25 °C without condensation during operation maximum  relative humidity at 25 °C without condensation during operation  maximum  1x (0)  1	2 4 mm²), 2x (0.5 2.5 mm²)
<ul> <li>at the measurement inputs for current finely stranded with core end processing</li> <li>at the measurement inputs for current for AWG cables solid</li> <li>type of electrical connection</li> <li>at the measurement inputs for voltage</li> <li>at the measurement inputs for current</li> </ul> Mechanical Design fastening method standard rail mounting <ul> <li>size of Power Monitoring Device</li> <li>height</li> <li>width</li> <li>depth</li> <li>installation depth</li> <li>net weight</li> <li>mounting position</li> </ul> Environmental conditions <ul> <li>ambient temperature during operation</li> <li>minimum</li> <li>maximum</li> <li>maximum</li> <li>maximum</li> <li>relative humidity at 25 °C without condensation during operation</li> <li>maximum</li> <li>75 %</li> </ul>	to 10
core end processing  • at the measurement inputs for current for AWG cables solid  type of electrical connection  • at the measurement inputs for voltage screw • at the measurement inputs for current  Mechanical Design  fastening method standard rail mounting No size of Power Monitoring Device size height 96 m width 96 m installation depth 55 m installation depth 51 m net weight 345 g mounting position  Environmental conditions  ambient temperature during operation • maximum 55 ° C ambient temperature during storage • minimum -25 ° C ambient temperation • maximum 70 ° C or maximum 75 % maximum 75	2 6 mm²), 2x (0.2 1.5 mm²)
solid  type of electrical connection  • at the measurement inputs for voltage • at the measurement inputs for current  Mechanical Design  fastening method standard rail mounting size of Power Monitoring Device height width depth installation depth net weight net weight mounting position  Environmental conditions ambient temperature during operation • maximum • maximum • maximum • maximum  • maximum  relative humidity at 25 °C without condensation during operation maximum  relative humidity at 25 °C without condensation during operation maximum  rescription screen	2 4 mm²), 2x (0.5 2.5 mm²)
at the measurement inputs for voltage at the measurement inputs for current  Mechanical Design  fastening method standard rail mounting size of Power Monitoring Device height  width depth installation depth net weight mounting position  Environmental conditions ambient temperature during operation  maximum  maximum  maximum  maximum  maximum  e maximum  maximum  maximum  maximum  relative humidity at 25 °C without condensation during operation maximum  screw screw screw  No  No  Size of  No  size of  Power Monitoring Device size size size size size size size siz	to 10
● at the measurement inputs for current  Mechanical Design  fastening method standard rail mounting  size of Power Monitoring Device height width depth installation depth net weight mounting position  Environmental conditions ambient temperature during operation ● maximum ● maximum  ● maximum  • maximum  • maximum  • maximum  relative humidity at 25 °C without condensation during operation maximum  **To °C  **To Condition Server.**  **To Ser	
fastening method standard rail mounting size of Power Monitoring Device height width ge m depth installation depth net weight mounting position  Environmental conditions ambient temperature during operation • maximum  -25 ° relative humidity at 25 °C without condensation during operation maximum	-type terminals
fastening method standard rail mounting size of Power Monitoring Device size of Power Monitoring Device height  width ge m depth for minstallation depth net weight mounting position  Environmental conditions  ambient temperature during operation  maximum  no conditions  maximum  maximum  maximum  maximum  maximum  no conditions  maximum  maximum  no conditions  maximum  no conditions  maximum  no conditions  maximum  no conditions  maximum  maximum  no conditions  no condi	-type terminals
size of Power Monitoring Device  height  width  depth  installation depth  net weight  mounting position  Environmental conditions  ambient temperature during operation  • minimum  • maximum  ambient temperature during storage  • minimum  • maximum  • maximum  relative humidity at 25 °C without condensation during operation  respectively.	
height 96 m width 96 m depth 56 m installation depth 51 m net weight 345 g mounting position vertice  Environmental conditions ambient temperature during operation • minimum -25 ° ambient temperature during storage • minimum -25 ° ambient temperature during storage • minimum -70 °C relative humidity at 25 °C without condensation during operation maximum 75 %	
width 96 m depth 56 m installation depth 51 m net weight 345 g mounting position vertice  Environmental conditions  ambient temperature during operation	
depth 56 m installation depth 51 m net weight 345 g mounting position vertice  Environmental conditions  ambient temperature during operation • minimum -25 ° maximum -25 °	n
installation depth net weight net weight mounting position  Environmental conditions  ambient temperature during operation • minimum • maximum  ambient temperature during storage • minimum • maximum  ambient temperature during storage • minimum • maximum  relative humidity at 25 °C without condensation during operation maximum	
net weight mounting position vertice  Environmental conditions  ambient temperature during operation • minimum • maximum  ambient temperature during storage • minimum • maximum  ambient temperature during storage • minimum • maximum  relative humidity at 25 °C without condensation during operation maximum	
mounting position vertice  Environmental conditions  ambient temperature during operation  • minimum  • maximum  55 °C  ambient temperature during storage  • minimum  • maximum  • maximum  70 °C  relative humidity at 25 °C without condensation during operation maximum	n
Environmental conditions  ambient temperature during operation  • minimum  • maximum  ambient temperature during storage  • minimum  • maximum  • maximum  70 °C  relative humidity at 25 °C without condensation during operation maximum	n
ambient temperature during operation  • minimum  • maximum  55°C  ambient temperature during storage  • minimum  • maximum  70°C  relative humidity at 25 °C without condensation during operation maximum	n n
<ul> <li>minimum</li> <li>maximum</li> <li>55 °C</li> <li>ambient temperature during storage</li> <li>minimum</li> <li>maximum</li> <li>maximum</li> <li>relative humidity at 25 °C without condensation during operation maximum</li> </ul>	n n
<ul> <li>maximum</li> <li>ambient temperature during storage</li> <li>minimum</li> <li>maximum</li> <li>maximum</li> <li>relative humidity at 25 °C without condensation during operation maximum</li> </ul>	n n
ambient temperature during storage  • minimum  • maximum  relative humidity at 25 °C without condensation during operation maximum  75 %	n n al
<ul> <li>minimum</li> <li>maximum</li> <li>relative humidity at 25 °C without condensation during operation maximum</li> <li>75 %</li> </ul>	n n al
● maximum 70 °C relative humidity at 25 °C without condensation during operation maximum 75 %	n n al
maximum	n n al
installation altitude at height above sea level maximum	n n al
motunation autitude at neight above sea level maximum 2 000	n n al
degree of pollution 2	n n al
Certificates	n n al
certificate of suitability as EC Declaration of Conformity yes	n n al
Approvals Certificates	n n al
General Product Approval	n n al













other Environment

**Miscellaneous Environmental Confirmations** 

Environmental Confirmations

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

Information- and Downloadcenter (catalogues, leaflets,...)

http://www.siemens.com/energy-automation

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=7KM4220-1BA01-1EA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

https://support.industry.siemens.com/cs/ww/en/ps/7KM4220-1BA01-1EA0

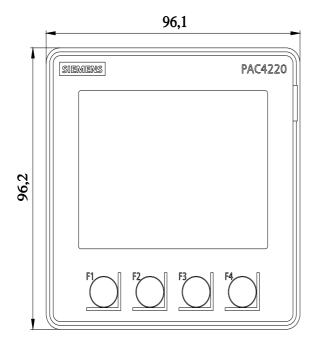
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) <a href="http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=7KM4220-1BA01-1EA0">http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=7KM4220-1BA01-1EA0</a>

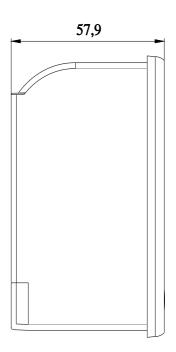
**CAx-Online-Generator** 

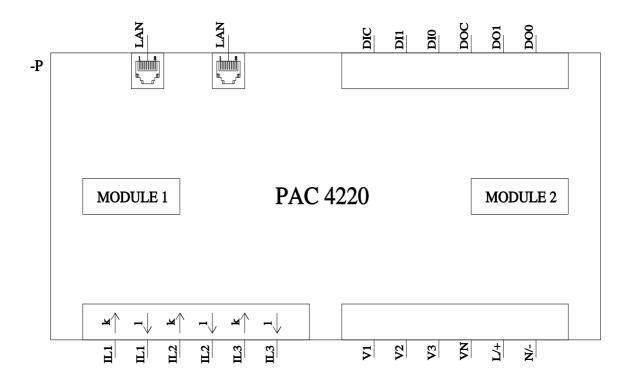
http://www.siemens.com/cax

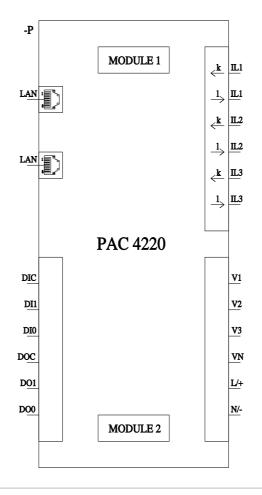
**Tender specifications** 

http://www.siemens.com/specifications









last modified: 6/14/2024 🖸