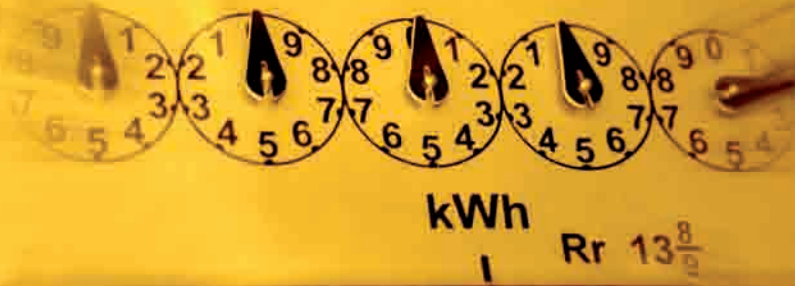


ENG

SUMMARY
2015



Focus on
ENERGY

 **secs**

Herholdt Controls - Leader in DIN rail measurement and communication instruments

Herholdt Controls is a leading manufacturer of modular measurement systems for electrical parameters. Since beginning, the main focus of the company has been the Energy Management Control market, considered as a crucial application field with high expectations for growth in the years to come due to the increasing sensibility of administrations, professionals and users to the themes of energy saving and efficiency. This new range of products in the field of Energy Management Control, will be developed and enhanced with a particular focus on quality and service, starting from project up to after sales.



Products and services

Herholdt Controls portfolio of products and services is constantly improved with a close watch on quality, performance, international standard and customer satisfaction. Among the main features of the Herholdt Controls portfolio stand modularity and communications. The Herholdt Controls products for measurement and control leverage a concept of scalability that always provides the best solution for each need. Through the wide range of communication options, Herholdt Controls Analyzers and Meters can exchange data easily and effectively with any remote energy management system (EnMS), paving the way to a new range of opportunities and applications. This is in line with the most severe international best practices as the EN ISO 50001, which helps organizations in all sectors to use energy more efficiently.

Products qualification and parameterization

Production and test equipments of Herholdt Controls have no equal on the market. Each unit is submitted to the most severe tests. Cutting-edge climatic chambers and ultra-high precision tools for counters parameterization allow Herholdt Controls to offer certified products compliant to several regulations and standards.

MID products and qualified lab

Most of Herholdt Controls measuring products are MID approved. Herholdt Controls lab is certified according to EN 17025/WMT thus allowing Herholdt Controls qualified personnel to perform several accuracy and quality tests on the products, even during the certification process, under the supervision of the Italian Certifying Body (IMQ).

More than 20 different apparatus approved MID

The range of MID approved Herholdt Controls metering equipments is totally compliant not only to MID directive, but also to the new incoming norms related, for example, with safety, durability and immunity to 2-150 kHz conducted disturbances. Also the not MID certified metering equipments are fully compliant to the same norms.



ISO 9001 -2008

The Herholdt Controls products quality comes from very accurate design, manufacturing and test procedures. The attention to details offers an extreme flexibility and the possibility to deliver unique customer-oriented solutions. Herholdt Controls quality management system accomplishes most rigorous standards and it is certified by Quality System ISO 9001:2008.





built-in

Characteristics		50	50	50	Modbus	M-Bus
Communication link						
Connection		32 A	80 A	125 A	125 A	125 A
Code (not MID certified)		ECSEM86	282101	ECSEM127	ECSEM106	ECSEM124
Code MID certified		ECSEM88MID	282551	282351	ECSEM107MID	ECSEM117MID
Housing DIN modules (wide)		1	2	3	3	3
Operating voltage range	VAC	184 ... 276	110 ... 276	92 ... 276	92 ... 276	92 ... 276
Certified voltage	VAC	1 x 230	1 x 230	1 x 230	1 x 230	1 x 230
Operating frequency range	Hz	49 ... 51	48 ... 62	45 ... 65	45 ... 65	45 ... 65
Certified frequency	Hz	50	50	50	50	50
Starting current (I _{st})	mA	20	15	20	20	20
Reference current (I _{ref})	A	5	5	5	5	5
Main supply	VAC	SELF	SELF	SELF	SELF	SELF
System connectivity	(n° wires)	Direct (2)	Direct (2)	Direct (2)	Direct (2)	Direct (2)
Display	(n° digit)	LCD (7)	LCD (8)	LCD (8)	LCD (8)	LCD (8)
Display green backlighted		-	YES	YES	YES	YES
Main terminal	(wire mm ²)	25	35	50	50	50
Operating temperature	°C	-25 to +55°C	-25 to +55°C	-25 to +55°C	-25 to +55°C	-25 to +55°C
Pulse output S0	(n°)	1	2	2	-	-
Measuring accuracy:	V - A - P (reading)	±1% (P)	±0.5%	±0.5%	±0.5%	±0.5%
	PF (4 quadrants)	-	±0.03	±0.03	±0.03	±0.03
	Hz	-	±0.2	±0.2	±0.2	±0.2
	EN 50470-1-3 active energy class B	B (1%)	B (1%)	B (1%)	B (1%)	B (1%)
	EN 62053-23 reactive energy class 2	-	2%	2%	2%	2%
Voltage	L	-	▲	▲	■ ▲	■ ▲
Current	L	-	▲	▲	■ ▲	■ ▲
Power Factor	L	-	▲	▲	■ ▲	■ ▲
Frequency	L	-	▲	▲	■ ▲	■ ▲
Active Power	L	● ▲	● ▲	● ▲	● ■ ▲	● ■ ▲
Reactive Power	L	-	● ▲	● ▲	● ■ ▲	● ■ ▲
Apparent Power	L	-	▲	▲	■ ▲	■ ▲
Import Active Energy	Tariff 1	● ▲	● ▲	● ▲	● ■ ▲	● ■ ▲
	Tariff 2	-	● ▲	● ▲	● ■ ▲	● ■ ▲
Export Active Energy	Tariff 1	● ▲	● ▲	● ▲	● ■ ▲	● ■ ▲
	Tariff 2	-	● ▲	● ▲	● ■ ▲	● ■ ▲
Import Reactive Energy	Tariff 1	-	● ▲	● ▲	● ■ ▲	● ■ ▲
	Tariff 2	-	● ▲	● ▲	● ■ ▲	● ■ ▲
Export Reactive Energy	Tariff 1	-	● ▲	● ▲	● ■ ▲	● ■ ▲
	Tariff 2	-	● ▲	● ▲	● ■ ▲	● ■ ▲
Communication (▲)						
IR - side:	M-Bus, Modbus RTU, KNX, LAN/TCP, SD-Card	YES	YES	YES	YES	YES

Application example



- = Measured parameters displayed
- = Measured parameters through built-in Bus
- ▲ = Measured parameters through IR side modules

For more information about technical data, overall dimensions and wiring diagrams link to: www.hhcontrols.com



Characteristics	
Communication link	
Connection	
Code (not MID certified)	
Code MID certified	
Housing DIN modules (wide)	
Operating voltage range	VAC
Certified voltage	VAC
Operating frequency range	Hz
Certified frequency	Hz
Starting current (Ist)	mA
Reference current (Iref)	A
Main supply	VAC
System connectivity	(n° wires)
Display	(n° digit)
Display green backlighted	
Main terminal	(wire mm ²)
Operating temperature	°C
Pulse output S0	(n°)
Measuring accuracy:	V - A - P (reading)
	PF (4 quadrants)
	Hz
	EN 50470-1-3 active energy class B
	EN 62053-23 reactive energy class 2
Voltage	L1, L2, L3 L1-2, L2-3, L3-1
Current	L1, L2, L3 N
Power Factor	L1, L2, L3 ΣL
Frequency	
Active Power	L1, L2, L3 ΣL
Reactive Power	L1, L2, L3 ΣL
Apparent Power	L1, L2, L3 ΣL
Import Active Energy	L1, L2, L3, ΣL Tariff 1 and Tariff 2
Export Active Energy	L1, L2, L3, ΣL Tariff 1 and Tariff 2
Import Reactive Energy	L1, L2, L3, ΣL Tariff 1 and Tariff 2
Export Reactive Energy	L1, L2, L3, ΣL Tariff 1 and Tariff 2
Communication (▲)	
IR - side: M-Bus, Modbus RTU, KNX, LAN/TCP, SD-Card	

	S0	S0	S0
	... / 5 A	80 A	125 A
	282201	282331	282191
	282141	282301	282651
	4	4	6
	110 ... 276 / 190 ... 480	110 ... 276 / 190 ... 480	110 ... 276 / 190 ... 480
	3 x 230 / 400	3 x 230 / 400	3 x 230 / 400
	48 ... 62	48 ... 62	48 ... 62
	50	50	50
	3	15	20
	5	5	5
	SELF	SELF	SELF
	Through CT (4)	Direct (2-4)	Direct (2-4)
	LCD (8)	LCD (8)	LCD (8)
	YES	YES	YES
	4	35	50
	-25 to +55°C	-25 to +55°C	-25 to +55°C
	2	2	2
	±0.5%	±0.5%	±0.5%
	±0.03	±0.03	±0.03
	±0.2	±0.2	±0.2
	B (1%)	B (1%)	B (1%)
	2%	2%	2%
	▲	▲	▲
	▲	▲	▲
	▲	▲	▲
	-	-	-
	▲	▲	▲
	▲	▲	▲
	● ▲	● ▲	● ▲
	● ▲	● ▲	● ▲
	▲	▲	▲
	▲	▲	▲
	● ▲	● ▲	● ▲
	● ▲	● ▲	● ▲
	● ▲	● ▲	● ▲
	● ▲	● ▲	● ▲
	● ▲	● ▲	● ▲
	● ▲	● ▲	● ▲
	YES	YES	YES

Application example

- = Measured parameters displayed
- ▲ = Measured parameters through IR side modules

For more information about technical data, overall dimensions and wiring diagrams link to: www.hhcontrols.com



Compact Line

Single phase Energy Meters

Compact Line



Characteristics	
Communication link	
Connection	
Code (not MID certified)	
Code MID certified	
Housing DIN modules (wide)	
Operating voltage range	VAC
Certified voltage	VAC
Operating frequency range	Hz
Certified frequency	Hz
Starting current (Ist)	mA
Reference current (Iref)	A
Main supply	VAC
System connectivity	(n° wires)
Display	(n° digit)
Display green backlighted	
Main terminal	(min. mm ²) max. mm ²
Operating temperature	°C
Pulse output S0	(n°)
Measuring accuracy:	V - A - P (reading)
	PF (4 quadrants)
	Hz
	EN 50470-1-3 active energy class B
	EN 62053-23 reactive energy class 2

	S0	Modbus	M-Bus	KNX
	63 A	63 A	63 A	63 A (New)
	ECSEM211	ECSEM213	ECSEM215	ECSEM217 (*)
	ECSEM212MID	ECSEM214MID	ECSEM216MID	-
Housing DIN modules (wide)	2	2	2	2
Operating voltage range	92 ... 276	92 ... 276	92 ... 276	92 ... 276
Certified voltage	230	230	230	230
Operating frequency range	45 ... 65	45 ... 65	45 ... 65	45 ... 65
Certified frequency	50	50	50	50
Starting current (Ist)	15	15	15	15
Reference current (Iref)	5	5	5	5
Main supply	SELF	SELF	SELF	SELF
System connectivity	Direct (2)	Direct (2)	Direct (2)	Direct (2)
Display	LCD (8)	LCD (8)	LCD (8)	LCD (8)
Display green backlighted	-	-	-	-
Main terminal	(1.5) 35	(1.5) 35	(1.5) 35	(1.5) 35
Operating temperature	-25 to +55°C	-25 to +55°C	-25 to +55°C	-25 to +55°C
Pulse output S0	(n°)			
Measuring accuracy:	V - A - P (reading)	±0.5%	±0.5%	±0.5%
	PF (4 quadrants)	±0.03	±0.03	±0.03
	Hz	±0.2	±0.2	±0.2
	EN 50470-1-3 active energy class B	B (1%)	B (1%)	B (1%)
	EN 62053-23 reactive energy class 2	2%	2%	2%

Characteristics	
Communication link	
Connection	
Code (not MID certified)	
Code MID certified	
Housing DIN modules (wide)	
Operating voltage range	VAC
Certified voltage	VAC
Operating frequency range	Hz
Certified frequency	Hz
Starting current (Ist)	mA
Reference current (Iref)	A
Main supply	VAC
System connectivity	(n° wires)
Display	(n° digit)
Display green backlighted	
Main terminal	(min. mm ²) max. mm ²
Operating temperature	°C
Pulse output S0	(n°)
Measuring accuracy:	V - A - P (reading)
	PF (4 quadrants)
	Hz
	EN 50470-1-3 active energy class B
	EN 62053-23 reactive energy class 2

Voltage	L	●	
Current	L	●	■
Power Factor	L	●	■
Frequency	L	●	■
Active Power	L	●	■
Reactive Power	L	●	■
Apparent Power	L	●	■
Import Active Energy	Total (T1 + T2)	●	■
	Tariff 1 and Tariff 2	●	■
Export Active Energy	Total (T1 + T2)	●	■
	Tariff 1 and Tariff 2	●	■
Import Reactive Energy	Total (T1 + T2)	●	■
	Tariff 1 and Tariff 2	●	■
Export Reactive Energy	Total (T1 + T2)	●	■
	Tariff 1 and Tariff 2	●	■
Partial active energy	Tariff 1 and Tariff 2	●	■

Voltage	L1, L2, L3	●	■
Current	L1-2, L2-3, L3-1	●	■
Current	L1, L2, L3	●	■
Current	N		
Power Factor	L1, L2, L3	●	■
Power Factor	ΣL		
Frequency			
Active Power	L1, L2, L3	●	■
Active Power	ΣL		
Reactive Power	L1, L2, L3	●	■
Reactive Power	ΣL		
Apparent Power	L1, L2, L3	●	■
Apparent Power	ΣL		
Import Active Energy	L1, L2, L3	●	■
Import Active Energy	Tariff 1 and Tariff 2, ΣL		
Export Active Energy	L1, L2, L3	●	■
Export Active Energy	Tariff 1 and Tariff 2, ΣL		
Import Reactive Energy	L1, L2, L3, ΣL	●	■
Import Reactive Energy	Tariff 1 and Tariff 2		
Export Reactive Energy	L1, L2, L3, ΣL	●	■
Export Reactive Energy	Tariff 1 and Tariff 2		
Partial active energy	ΣL (Tariff 1 and Tariff 2)		

Voltage	L1, L2, L3
Current	L1-2, L2-3, L3-1
Current	L1, L2, L3
Current	N
Power Factor	L1, L2, L3
Power Factor	ΣL
Frequency	
Active Power	L1, L2, L3
Active Power	ΣL
Reactive Power	L1, L2, L3
Reactive Power	ΣL
Apparent Power	L1, L2, L3
Apparent Power	ΣL
Import Active Energy	L1, L2, L3
Import Active Energy	Tariff 1 and Tariff 2, ΣL
Export Active Energy	L1, L2, L3
Export Active Energy	Tariff 1 and Tariff 2, ΣL
Import Reactive Energy	L1, L2, L3, ΣL
Import Reactive Energy	Tariff 1 and Tariff 2
Export Reactive Energy	L1, L2, L3, ΣL
Export Reactive Energy	Tariff 1 and Tariff 2
Partial active energy	ΣL (Tariff 1 and Tariff 2)

(*) ready from June 2015

● = Measured parameters displayed
 ■ = Measured parameters through built-in Bus

For more information about technical data, overall dimensions and wiring diagrams link to: www.hhcontrols.com

Three phase Energy Meters - 2 Tariffs - 2 S0 or 2 Tariffs with built-in communication



built-in

S0	S0	Modbus	M-Bus	KNX	Modbus	M-Bus	KNX
.../1-5 A	63 A	.../1-5 A	.../1-5 A	.../1-5 A	63 A	63 A	63 A
ECSEM222	ECSEM109	ECSEM226	ECSEM224	ECSEM219	ECSEM113	ECSEM111	ECSEM218
ECSEM223MID	ECSEM110MID	ECSEM227MID	ECSEM225MID	-	ECSEM114MID	ECSEM112MID	-
4	4	4	4	4	4	4	4
92 ... 276 / 160 ... 480	92 ... 276 / 160 ... 480	92 ... 276 / 160 ... 480	92 ... 276 / 160 ... 480	92 ... 276 / 160 ... 480	92 ... 276 / 160 ... 480	92 ... 276 / 160 ... 480	92 ... 276 / 160 ... 480
3 x 230 / 400	3 x 230 / 400	3 x 230 / 400	3 x 230 / 400	3 x 230 / 400	3 x 230 / 400	3 x 230 / 400	3 x 230 / 400
45 ... 65	45 ... 65	45 ... 65	45 ... 65	45 ... 65	45 ... 65	45 ... 65	45 ... 65
50	50	50	50	50	50	50	50
1	15	1	1	1	15	15	15
1	5	1	1	1	5	5	5
SELF	SELF	SELF	SELF	SELF	SELF	SELF	SELF
Through CT (4)	Direct (4)	Through CT (4)	Through CT (4)	Through CT (4)	Direct (4)	Direct (4)	Direct (4)
LCD (9)	LCD (9)	LCD (9)	LCD (9)	LCD (9)	LCD (9)	LCD (9)	LCD (9)
-	-	-	-	-	-	-	-
4	35	4	4	4	35	35	35
-25 to +55°C	-25 to +55°C	-25 to +55°C	-25 to +55°C	-25 to +55°C	-25 to +55°C	-25 to +55°C	-25 to +55°C
2	2	-	-	1	-	-	-
±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
±0.03	±0.03	±0.03	±0.03	±0.03	±0.03	±0.03	±0.03
±0.2	±0.2	±0.2	±0.2	±0.2	±0.2	±0.2	±0.2
B (1%)	B (1%)	B (1%)	B (1%)	B (1%)	B (1%)	B (1%)	B (1%)
2%	2%	2%	2%	2%	2%	2%	2%
-	-	■	■	■	■	■	■
-	-	■	■	■	■	■	■
-	-	■	■	■	■	■	■
-	-	■	■	■	■	■	■
-	-	■	■	■	■	■	■
-	-	■	■	■	■	■	■
-	-	■	■	■	■	■	■
-	-	■	■	■	■	■	■
-	-	■	■	■	■	■	■
-	-	■	■	■	■	■	■
-	-	■	■	■	■	■	■
-	-	■	■	■	■	■	■
●	●	●	●	●	●	●	●
-	-	■	■	■	■	■	■
●	●	●	●	●	●	●	●
-	-	■	■	■	■	■	■
-	-	■	■	■	■	■	■
-	-	■	■	■	■	■	■
-	-	■	■	■	■	■	■
●	●	●	●	●	●	●	●

● = Measured parameters displayed
 ■ = Measured parameters through built-in Bus

For more information about technical data, overall dimensions and wiring diagrams link to: www.hhcontrols.com

Power Meters

Three phase - 2 Tariffs - 2 S0



Characteristics

Communication link	
Connection	
Code	
Housing DIN modules (wide)	
Operating voltage range VAC	
Operating frequency range Hz	
Starting current (Ist) mA	
Reference current (Iref) A	
Main supply VAC	
System connectivity (n° wires)	
Display	
Display green backlighted	
Main terminal (wire mm ²)	
Operating temperature °C	
Pulse output S0 (n°)	
Measuring accuracy:	V - A - P (reading)
	PF (4 quadrants)
	Hz
	EN 50470-1-3 active energy class B EN 62053-23 reactive energy class 2
Voltage	L1, L2, L3 L1-2, L2-3, L3-1
Current	L1, L2, L3 N
Power Factor	L1, L2, L3 ΣL
Frequency	
Active Power	L1, L2, L3 ΣL
Reactive Power	L1, L2, L3 ΣL
Apparent Power	L1, L2, L3 ΣL
Import Active Energy	L1, L2, L3, ΣL Tariff 1 and Tariff 2
Export Active Energy	L1, L2, L3, ΣL Tariff 1 and Tariff 2
Import Reactive Energy	L1, L2, L3, ΣL Tariff 1 and Tariff 2
Export Reactive Energy	L1, L2, L3, ΣL Tariff 1 and Tariff 2
Partial active energy	ΣL
THD% voltage	L1, L2, L3
THD% current	L1, L2, L3

	S0 .../ 5 A	S0 80 A	S0 .../1-5 A	S0 63 A
	ECSPM30	ECSPM37	ECSPM53	ECSPM54
Housing DIN modules (wide)	4	4	4	4
Operating voltage range VAC	3 x 184 ... 276 / 318 ... 480	3 x 184 ... 276 / 318 ... 480	92 ... 276 / 160 ... 480	92 ... 276 / 160 ... 480
Operating frequency range Hz	49 ... 51	49 ... 51	45 ... 65	45 ... 65
Starting current (Ist) mA	3	15	3	15
Reference current (Iref) A	5	5	5	5
Main supply VAC	SELF	SELF	SELF	SELF
System connectivity (n° wires)	Through CT (4)	Direct (2-4)	Through CT (4)	Direct (2-4)
Display	LCD	LCD	LCD	LCD
Display green backlighted	YES	YES	YES	YES
Main terminal (wire mm ²)	4	35	4	35
Operating temperature °C	-10 to +55°C	-10 to +55°C	-10 to +55°C	-10 to +55°C
Pulse output S0 (n°)	2	2	2	2
Measuring accuracy:	±0.5%	±0.5%	±0.5%	±0.5%
	±0.03	±0.03	±0.03	±0.03
	±0.2	±0.2	±0.2	±0.2
	B (1%)	B (1%)	B (1%)	B (1%)
	2%	2%	2%	2%
Voltage	● ▲	● ▲	● ▲	● ▲
Current	● ▲	● ▲	● ▲	● ▲
Power Factor	● ▲	● ▲	● ▲	● ▲
Frequency	● ▲	● ▲	● ▲	● ▲
Active Power	● ▲	● ▲	● ▲	● ▲
Reactive Power	● ▲	● ▲	● ▲	● ▲
Apparent Power	● ▲	● ▲	● ▲	● ▲
Import Active Energy	● ▲	● ▲	● ▲	● ▲
Export Active Energy	● ▲	● ▲	● ▲	● ▲
Import Reactive Energy	▲	▲	▲	▲
Export Reactive Energy	▲	▲	▲	▲
Partial active energy	-	-	-	-
THD% voltage	-	-	●	●
THD% current	-	-	●	●
Communication (▲)				
IR - side: M-Bus, Modbus RTU, KNX, LAN/TCP, SD-Card	YES	YES	YES	YES

Application example

- = Measured parameters displayed
- ▲ = Measured parameters through IR side modules

For more information about technical data, overall dimensions and wiring diagrams link to: www.hhcontrols.com



Power Meters

Three phase - 2 Tariffs with built-in communication



built-in

Characteristics	
Communication link	
Connection	
Code	
Housing DIN modules (wide)	
Operating voltage range	VAC
Operating frequency range	Hz
Starting current (Ist)	mA
Reference current (Iref)	A
Main supply	VAC
System connectivity	(n° wires)
Display	
Display green backlighted	
Main terminal	(wire mm ²)
Operating temperature	°C
Pulse output S0	(n°)
Measuring accuracy:	V - A - P (reading)
	PF (4 quadrants)
	Hz
	EN 50470-1-3 active energy class B
	EN 62053-23 reactive energy class 2
Voltage	L1, L2, L3 L1-2, L2-3, L3-1
Current	L1, L2, L3 N
Power Factor	L1, L2, L3 ΣL
Frequency	
Active Power	L1, L2, L3 ΣL
Reactive Power	L1, L2, L3 ΣL
Apparent Power	L1, L2, L3 ΣL
Import Active Energy	L1, L2, L3, ΣL Tariff 1 and Tariff 2
Export Active Energy	L1, L2, L3, ΣL Tariff 1 and Tariff 2
Import Reactive Energy	L1, L2, L3, ΣL Tariff 1 and Tariff 2
Export Reactive Energy	L1, L2, L3, ΣL Tariff 1 and Tariff 2
Partial active energy	ΣL
THD% voltage	L1, L2, L3
THD% current	L1, L2, L3
Communication (▲)	
IR - side: M-Bus, Modbus RTU, KNX, LAN/TCP, SD-Card	

	Modbus	M-Bus	Modbus	M-Bus
	.../1-5 A	.../1-5 A	63 A	63 A
	ECSPM48	ECSPM49	ECSPM50	ECSPM51
Housing DIN modules (wide)	4	4	4	4
Operating voltage range	92 ... 276 / 160 ... 480	92 ... 276 / 160 ... 480	92 ... 276 / 160 ... 480	92 ... 276 / 160 ... 480
Operating frequency range	45 ... 65	45 ... 65	45 ... 65	45 ... 65
Starting current (Ist)	3	3	15	15
Reference current (Iref)	5	5	5	5
Main supply	SELF	SELF	SELF	SELF
System connectivity	Through CT (4)	Through CT (4)	Direct (2-4)	Direct (2-4)
Display	LCD	LCD	LCD	LCD
Display green backlighted	YES	YES	YES	YES
Main terminal	4	4	35	35
Operating temperature	-10 to +55°C	-10 to +55°C	-10 to +55°C	-10 to +55°C
Pulse output S0	-	-	-	-
Measuring accuracy:	±0.5%	±0.5%	±0.5%	±0.5%
	±0.03	±0.03	±0.03	±0.03
	±0.2	±0.2	±0.2	±0.2
	B (1%)	B (1%)	B (1%)	B (1%)
	2%	2%	2%	2%
Voltage	● ■ ▲	● ■ ▲	● ■ ▲	● ■ ▲
Current	● ■ ▲	● ■ ▲	● ■ ▲	● ■ ▲
Power Factor	● ■ ▲	● ■ ▲	● ■ ▲	● ■ ▲
Frequency	● ■ ▲	● ■ ▲	● ■ ▲	● ■ ▲
Active Power	● ■ ▲	● ■ ▲	● ■ ▲	● ■ ▲
Reactive Power	● ■ ▲	● ■ ▲	● ■ ▲	● ■ ▲
Apparent Power	● ■ ▲	● ■ ▲	● ■ ▲	● ■ ▲
Import Active Energy	■ ▲	■ ▲	■ ▲	■ ▲
Export Active Energy	■ ▲	■ ▲	■ ▲	■ ▲
Import Reactive Energy	■ ▲	■ ▲	■ ▲	■ ▲
Export Reactive Energy	■ ▲	■ ▲	■ ▲	■ ▲
Partial active energy	■	-	■	-
THD% voltage	● ■	●	● ■	●
THD% current	● ■	●	● ■	●
Communication (▲)	YES	YES	YES	YES

Application example

- = Measured parameters displayed
- = Measured parameters through built-in Bus
- ▲ = Measured parameters through IR side modules

For more information about technical data, overall dimensions and wiring diagrams link to: www.hhcontrols.com



Power Meters "EVO" Three phase - 2 Tariffs



Characteristics

Communication link	
Connection	
Code	
Housing DIN modules (wide)	
Operating voltage range	VAC
Operating frequency range	Hz
Starting current (I _{st})	mA
Reference current (I _{ref})	A
Main supply	VAC
System connectivity	(n° wires)
Display - Graphic	(LCD 144 x 80 pixels)
Display green backlighted	
Main terminal	(wire mm ²)
Operating temperature	°C
Pulse output S0	(n°)
Measuring accuracy:	V - A - P (reading)
	PF (4 quadrants)
	Hz
	EN 50470-1-3 active energy class B EN 62053-23 reactive energy class 2
Voltage	L1, L2, L3 L1-2, L2-3, L3-1
Current	L1, L2, L3 N
Power Factor	L1, L2, L3 ΣL
Frequency	
Active Power	L1, L2, L3 ΣL
Reactive Power	L1, L2, L3 ΣL
Apparent Power	L1, L2, L3 ΣL
Import Active Energy	L1, L2, L3, ΣL Tariff 1 and Tariff 2
Export Active Energy	L1, L2, L3, ΣL Tariff 1 and Tariff 2
Import Reactive Energy	L1, L2, L3, ΣL Tariff 1 and Tariff 2
Export Reactive Energy	L1, L2, L3, ΣL Tariff 1 and Tariff 2
Partial active energy	ΣL
THD% voltage	L1, L2, L3
THD% current	L1, L2, L3
Max. Demand	(3 intervals)
Max. Power	
Max. Currents	
Max. Voltages	
Internal accurate RTC	

built-in

	M-Bus		Modbus
Connection	... / 5 A		... / 5 A
Code	ECSPM60 (*)		ECSPM61 (*)
Housing DIN modules (wide)	4		4
Operating voltage range	110 ... 276 / 190 ... 480		110 ... 276 / 190 ... 480
Operating frequency range	47 ... 63		47 ... 63
Starting current (I _{st})	3		3
Reference current (I _{ref})	5		5
Main supply	SELF		SELF
System connectivity	Through CT (4)		Through CT (4)
Display - Graphic	LCD		LCD
Display green backlighted	YES		YES
Main terminal	4		4
Operating temperature	-10 to +55°C		-10 to +55°C
Pulse output S0	-		-
Measuring accuracy:	±0.5%		±0.5%
	±0.03		±0.03
	±0.2		±0.2
	B (1%) 2%		B (1%) 2%
Voltage	● ■ ▲		● ■ ▲
Current	● ■ ▲		● ■ ▲
Power Factor	● ■ ▲		● ■ ▲
Frequency	● ■ ▲		● ■ ▲
Active Power	● ■ ▲		● ■ ▲
Reactive Power	● ■ ▲		● ■ ▲
Apparent Power	● ■ ▲		● ■ ▲
Import Active Energy	● ■ ▲		● ■ ▲
Export Active Energy	● ■ ▲		● ■ ▲
Import Reactive Energy	● ■ ▲		● ■ ▲
Export Reactive Energy	● ■ ▲		● ■ ▲
Partial active energy	● ■		● ■
THD% voltage	● ■		● ■
THD% current	● ■		● ■
Max. Demand	● ■		● ■
Max. Power	● ■		● ■
Max. Currents	● ■		● ■
Max. Voltages	● ■		● ■
Internal accurate RTC	● ■		● ■

Communication (▲)

IR - side: M-Bus, Modbus RTU, KNX, LAN/TCP, SD-Card

YES

YES

● = Measured parameters displayed

■ = Measured parameters through built-in Bus

▲ = Measured parameters through IR side modules

(*) ready from June 2015

Network Analyzers Three phase - 2 Tariffs - 2 S0



built-in

Characteristics	
Communication link	
Connection	
Code	
Housing DIN modules (wide)	
Measuring voltage range	VAC
Frequency range	Hz
Starting current (Ist)	mA
Reference current (Iref)	A
Main supply	VAC
System connectivity	(n° wires)
Display	
Display green backlighted	
Main terminal	(wire mm ²)
Operating temperature	°C
Pulse output S0	(n°)
Measuring accuracy:	V - A - P (reading)
	PF (4 quadrants)
	Hz
	EN 50470-1-3 active energy class B EN 62053-23 reactive energy class 2

Voltage	L1, L2, L3
	L1-2, L2-3, L3-1
Current	L1, L2, L3
	N
Power Factor	L1, L2, L3
	ΣL
Frequency	L1, L2, L3
	ΣL
Active Power	L1, L2, L3
	ΣL
Reactive Power	L1, L2, L3
	ΣL
Apparent Power	L1, L2, L3
	ΣL
Import Active Energy	L1, L2, L3, ΣL
	Tariff 1 and Tariff 2
Export Active Energy	L1, L2, L3, ΣL
	Tariff 1 and Tariff 2
Import Reactive Energy	L1, L2, L3, ΣL
	Tariff 1 and Tariff 2
Export Reactive Energy	L1, L2, L3, ΣL
	Tariff 1 and Tariff 2

Communication (▲)	
IR - side:	M-Bus, Modbus RTU, KNX, LAN/TCP, SD-Card

	S0		built-in	
	... / 5 A	80 A	Modbus ... / 5 A	Modbus 80 A
	ECSAN08	ECSAN06	ECSAN04	ECSAN03
Housing DIN modules (wide)	6	6	6	6
Measuring voltage range	70 ... 276 / 121 ... 480	70 ... 276 / 121 ... 480	70 ... 276 / 121 ... 480	70 ... 276 / 121 ... 480
Frequency range	48 ... 62	48 ... 62	48 ... 62	48 ... 62
Starting current (Ist)	3	15	3	15
Reference current (Iref)	5	5	5	5
Main supply	184 ... 276	184 ... 276	184 ... 276	184 ... 276
System connectivity	Through CT (2 - 3 - 4)	Direct (2 - 3 - 4)	Through CT (2 - 3 - 4)	Direct (2 - 3 - 4)
Display	LED	LED	LED	LED
Display green backlighted	YES	YES	YES	YES
Main terminal	4	35	4	35
Operating temperature	-10 to +55°C	-10 to +55°C	-10 to +55°C	-10 to +55°C
Pulse output S0	2	2	2	2
Measuring accuracy:	±0.5%	±0.5%	±0.5%	±0.5%
	±0.03	±0.03	±0.03	±0.03
	±0.2	±0.2	±0.2	±0.2
	B (1%)	B (1%)	B (1%)	B (1%)
	2%	2%	2%	2%
Voltage	● ▲	● ▲	● ■ ▲	● ■ ▲
Current	● ▲	● ▲	● ■ ▲	● ■ ▲
Power Factor	● ▲	● ▲	● ■ ▲	● ■ ▲
Frequency	● ▲	● ▲	● ■ ▲	● ■ ▲
Active Power	● ▲	● ▲	● ■ ▲	● ■ ▲
Reactive Power	● ▲	● ▲	● ■ ▲	● ■ ▲
Apparent Power	● ▲	● ▲	● ■ ▲	● ■ ▲
Import Active Energy	● ▲	● ▲	● ■ ▲	● ■ ▲
Export Active Energy	● ▲	● ▲	● ■ ▲	● ■ ▲
Import Reactive Energy	● ▲	● ▲	● ■ ▲	● ■ ▲
Export Reactive Energy	● ▲	● ▲	● ■ ▲	● ■ ▲
Communication (IR - side)	YES	YES	YES	YES

Application example

- = Measured parameters displayed
- = Measured parameters through built-in Bus
- ▲ = Measured parameters through IR side modules



For more information about technical data, overall dimensions and wiring diagrams link to: www.hhcontrols.com

Communication

Modules



Characteristics					
Communication link					
Code	261261	Little Endian 261241 Big Endian 261161	261171	261231	261121 (*)
According to norm general EN 61000-6-2-3, EN 61000-4-2	YES	YES	YES	YES	YES
According to norm general	EN 1434 / IEC 60950 EN 13757-1-2-3	IEC 60950	EN 60664-1 EN 50090-2-2	EN 60950	EN 60950
Housing DIN modules	1	1	1	1	1
Suitable 1 / 3-phase energy, Power Meters and Network Anal.	YES	YES	YES	YES	YES
Power supply					
Voltage range	through bus	230 V AC ±20 %	through bus	230 V AC ±20 %	12 - 24 V AC/DC
Self supplied	YES	-	YES	-	-
Aux. power rating	-	≤1VA	-	≤1.5 Watt	≤0.5 VA
Frequency range	-	45 ... 65 Hz	-	45 ... 65 Hz	45 ... 65 Hz
Operation feature					
Memory storage	-	-	-	-	1 - 8 Gigabyte
Bus - HW interface	2 screw clamps	5 screw clamps	black / red connector	2 screw clamps + RJ 45	2 screw clamps
Bus - SW protocol	acc. EN 1434	RS-485	KNX	TCP / IP	proprietary
Bus - Bandrate	300 - 9600	≤38.400	9600	≤100 Mbit/s	-
Addressing	primary + secondary	1 ... 247	through ETS	by means of it IP address	-
User interface for setup and management	-	-	-	W3C HTML 4.01	-
Interface to instruments	optical IR	optical IR	optical IR	optical IR	optical IR
HW interface	2 (Tx, Rx)	2 (Tx, Rx)	2 (Tx, Rx)	2 (Tx, Rx)	2 (Tx, Rx)
SW protocol	proprietary	proprietary	proprietary	proprietary	proprietary
Safety acc. to IEC 60950					
Degree pollution	2	2	2	2	2
Overvoltage category	II	II	II	II	II
Working voltage	24 - 36	... 300 V AC	30 V DC max.	... 300 V AC	30 V DC max.
Test voltage impulse (1,2/50 μs) peak value kV	2.5	2.5	2.5	4	2.5
50 Hz 1 min kV	1.35	2.5	1.35	4	1.35
Environmental conditions					
Operating temperature	-10 to 55°C	-10 to 55°C	-10 to 55°C	-10 to 55°C	-10 to 55°C
Limit temperature of storage	-25 to 70°C	-25 to 70°C	-25 to 70°C	-25 to 70°C	-25 to 70°C
Relative humidity	≤80%	≤80%	≤80%	≤80%	≤80%
Vibrations amplitude at 50 Hz	±0.25 mm	±0.25 mm	±0.25 mm	±0.25 mm	±0.25 mm
Protection class	II	II	II	II	II
Degree of protection	IP 20	IP 20	IP 20	IP 20	IP 20

(*) **Optional:** code 241701 Power supply transformer 230 VAC / 12 VAC for max. 6 pcs. code 261121

Communication modules for Energy Meters Full Line, eVision, Power Meters and Network Analyzers.

The protocols supported are Modbus RTU, KNX, LAN-TCP/IP and M-Bus. SD-Card based local data loggers are also available. Communication modules connect a measuring instrument to a standard bus. The communication module receives data through an infra-red interface (IrDA) - placed on its side at 9.600 baud which is coupled with the mirror interface placed on the measuring device. These standard rail mounting modules occupy single DIN unit (18 mm) and can be powered directly by the bus or by a separate DIN power supply depending on the version.

Application example



For more information about technical data, overall dimensions and wiring diagrams link to: www.hhcontrols.com

M-Bus RF Adaptor

M-Bus to Wireless M-Bus Adaptor

Areas of application

Wireless Metering infrastructure:

The M-Bus radio-adaptor is the ideal cable replacement for the wireless integration of remote meters with M-Bus interface into a wireless M-Bus network.



Overview

- Integration of M-Bus meters in a wireless M-Bus radio network
- Supports up to three unit loads (3 x 1.5 mA)
- Easy setup procedure using rotary dip switches
- Comfortable configuration via PC
- Wireless M-Bus mode S or T adjustable
- Supports wildcard searching
- Firmware-update OTA (over-the-air) via radio (not wM-Bus)
- AES128 encryption of wireless data
- Universal housing for DIN rail or wall mounting
- External antenna connector, magnetic mount antenna optionally available
- 300, 2400, 9600 Baud are supported on M-Bus

Description

- The M-Bus radio-adaptor presents the possibility to integrate meters with (wired) M-Bus interface into a wireless M-Bus radio network. It is possible to connect and manage up to 20 meters respecting the maximum of three unit loads.
- After the start-up of the ECSWM01 the connected and configured meters are read out automatically. The data content is packed into a wireless M-Bus conform radio telegram and is then transmitted. The setup takes place via rotary switches and without costly instrumentation.

Selection and ordering data

Code	Description
ECSWM01	M-Bus RF Adapter (without accessories)
ECSAC08	SMA antenna with swivel base
ECSAC09	Magnetic mount antenna SMA connector cable 1.5 meter
201069	Power supply unit 12 V / 1 A
ECSAC10	USB M-Bus RF Transceiver

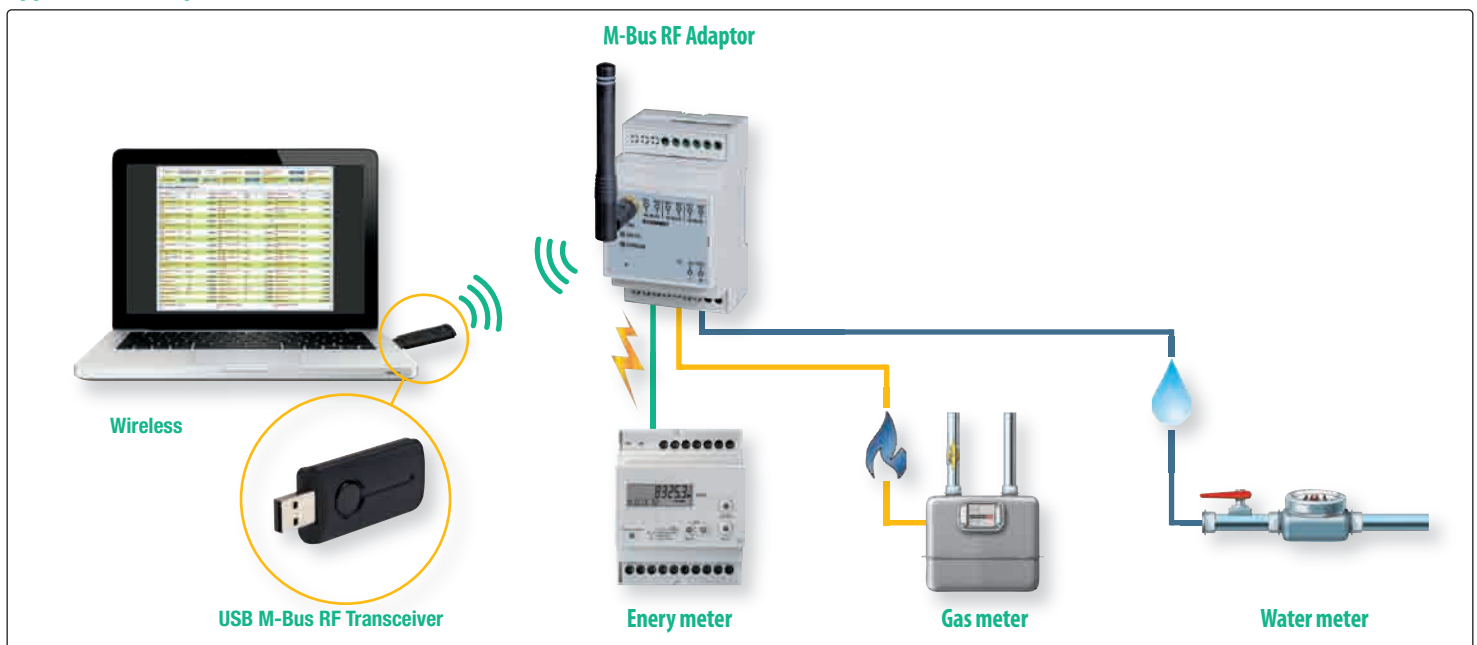
Technical specification

Performance	Range*	Up to 2000m
	RF data rate	16.384 kbps / 66.6 kbps
	M-Bus data rate	300, 2400, 9600
	RF output power	Typical 14 dBm
	RF sensitivity	Typical - 105 dBm (S mode)
General	Supply voltage	12 to 24 VDC
	Power consumption	<1W
	Dimensions	98 x 53 x 58 mm
	Operating temperature	0 to +55 °C
	Weight	<200 g
	Antenna	SMA antenna connector
RF technology	Frequency band	868.3 / 868.95 MHz
	Modulation	2-(G) FSK
Casing	Material/Flammability	Polycarbonate / UL94 V-0
	Type	DIN rail with wall mounting option
	Degree of protection	IP20
Conformity **	Europe	EN 300 220, EN 301 489, EN 60950, EN50371

* Range stated is calculated assuming line-of-sight. Actual range will vary based upon mounting location, antenna choice and environmental conditions.

** CE Conformity is only guaranteed when using the antennas ECSAC08 or ECSAC09

Application example



LAN Server - Modbus/TCP or M-Bus Data Concentrator

For Energy Meters, Network Analyzers and Power Meters

Application

This LAN Server gathers measurement data from our Energy Meters, Network Analyzers or Power Meters connected via a serial Modbus or M-Bus (depending from model) and shows the electrical values on web browser interface thanks to a Ethernet (RJ45) connection. Moreover, it can issue configuration and operation commands from a supervisor unit and store locally measured data (log) for long time period.



Overview

- Modbus or M-Bus interfaces
- TCP/IP interface supporting HTTP, SNMP, SMTP and FTP protocols
- Connect up to 31 devices with Modbus, 30 with M-Bus (with a maximum of 30 Unit Loads)
- Plug-and-play and ease to use
- Advanced web browser user interface
- Large storage capacity (up to 2 Gigabytes) for long length logging
- 4 DIN modules (72 mm)

Function

User interface

The intuitive web based interface supports different languages and allows to:

- Select and configure every device connected via Modbus or M-Bus
- Show real time electrical measured values get from the energy meters
- View the log of electrical measured data gathered from the units and stored into the internal large mass memory
- Configure LAN server parameters (i.e. network, log data types, store frequency, etc.)

Protocol of data

- Data connection between LAN Server and PC is based on TCP/IP and HTTP protocol.
- Log file can be download to user PC thanks to an internal FTP server.

Date and time

- LAN Server has a built in Real Time Clock features to keep accurate local time and date and it is capable to get synchronized using NTP network protocol.

Data storage

- The data retention is guaranteed for at least 10 years thanks to an internal 2 Gbytes micro SD-card. Its large storage capability allows user to collect large amount of log data.
- **For example** it can store data coming from 5 energy meters every minute and keep working for 2 years before the memory becomes full.

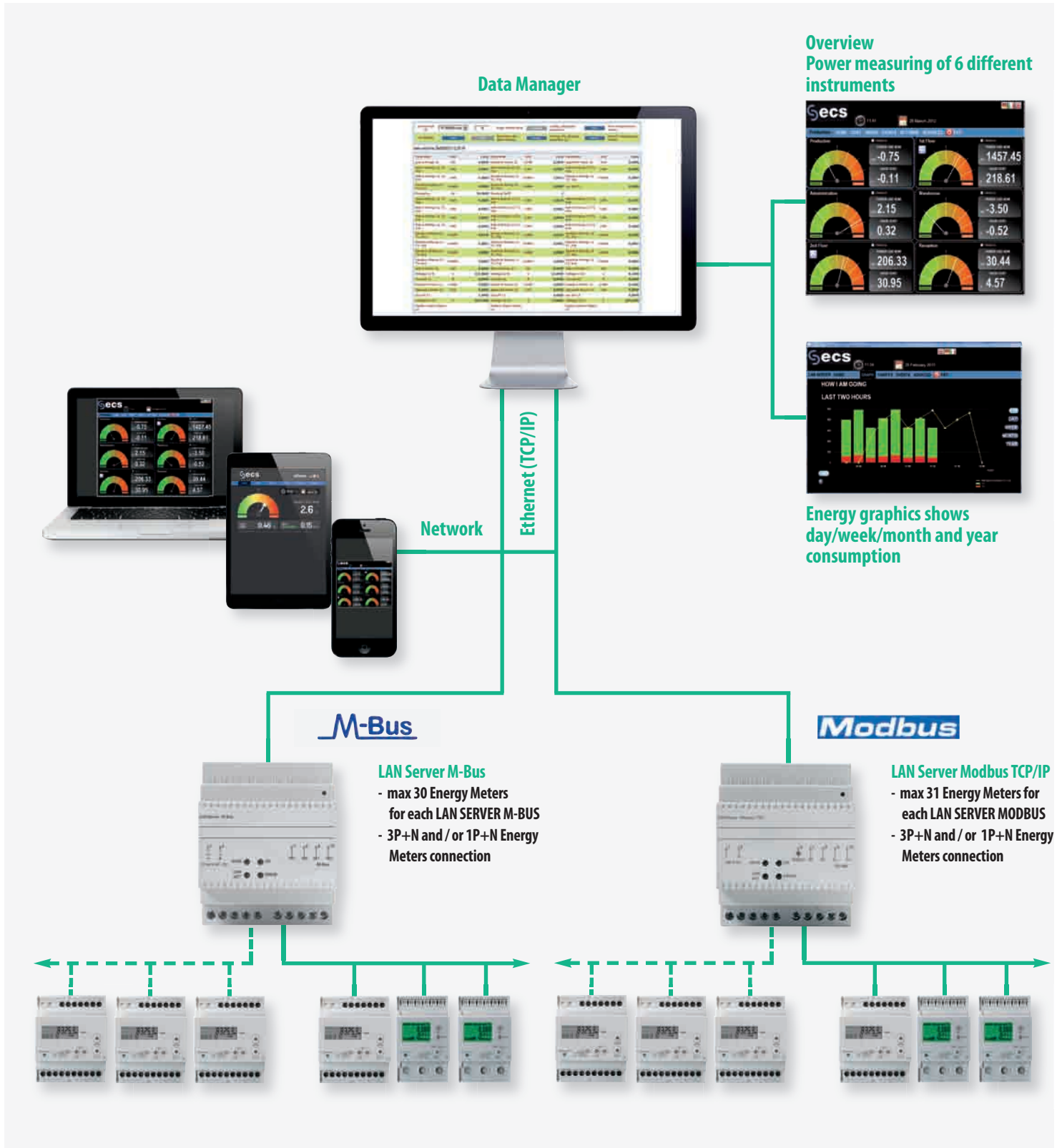
Characteristics

Type	LAN Server M-Bus	LAN Server Modbus/TCP
Description	Data concentrator with M-Bus	Data concentrator with Modbus/TCP
Code	ECLS03	ECLS04
According to norm general IEE 802.3 AS, IEC 60950, EN 61000-6-2, EN 61000-4-2	YES	YES
According to norm general	EN60950	EN60950
Housing DIN modules	4	4
Power supply		
Voltage range	230 VAC ±20%	230 VAC ±20%
Aux. power rating	≤ 10 VA	≤ 10 VA
Frequency range	45 ... 65 Hz	45 ... 65 Hz
Operation feature		
Memory storage	Internal 2 Gigabyte	Internal 2 Gigabyte
LAN - HW interface	RJ 45	RJ 45
LAN - SW protocol	TCP/IP	TCP/IP
LAN - Bandrate	10 / 100 Mbit/s	10 / 100 Mbit/s
Application level protocols	HTTP - FTP	HTTP - FTP Modbus/TCP
Interface to instruments	M-Bus	RS-485
HW interface	2 screw clamps	3 screw clamps
SW protocol	M-Bus	Modbus RTU and ASCII
Directly connected instruments	30 U.L.	31
Safety acc. to IEC 60950		
Degree pollution	2	2
Overvoltage category	II	II
Working voltage	... 300 VAC	... 300 VAC
Test voltage impulse	(1,2/50 μs) peak value kV	
	50 Hz 1 min kV	
Environmental conditions		
Operating temperature	-10 to 55°C	-10 to 55°C
Limit temperature of storage	-25 to 70°C	-25 to 70°C
Relative humidity	≤80%	≤80%
Vibrations amplitude at 50 Hz	±0.25 mm	±0.25 mm
Protection class	II	II
Degree of protection	IP 20	IP 20

For more information about technical data, overall dimensions and wiring diagrams link to: www.hhcontrols.com

LAN Server - Modbus/TCP or M-Bus Data Concentrator

Application example



Remote read-out with a PC and central data logging on a LAN Server



Airports



Stores



Shopping malls



Production units

eVision

Three phase - 2 Tariffs built-in LAN Server



Characteristics

Communication link	
Connection	
Code	
Housing DIN modules (wide)	
Operating voltage range	VAC
Operating frequency range	Hz
Starting current (Ist)	mA
Reference current (Iref)	A
Main supply	VAC
System connectivity	(n° wires)
Display	(n° digit)
Display green backlighted	
Main terminal	(wire mm ²)
Operating temperature	°C
Pulse output S0	(n°)
Measuring accuracy:	V - A - P (reading)
	PF (4 quadrants)
	Hz
	EN 50470-1-3 active energy class B EN 62053-23 reactive energy class 2
Voltage	L1, L2, L3 L1-2, L2-3, L3-1
Current	L1, L2, L3 N
Power Factor	L1, L2, L3 ΣL
Frequency	
Active Power	L1, L2, L3 ΣL
Reactive Power	L1, L2, L3 ΣL
Apparent Power	L1, L2, L3 ΣL
Import Active Energy	L1, L2, L3, ΣL Tariff 1 and Tariff 2
Export Active Energy	L1, L2, L3, ΣL Tariff 1 and Tariff 2
Import Reactive Energy	L1, L2, L3, ΣL Tariff 1 and Tariff 2
Export Reactive Energy	L1, L2, L3, ΣL Tariff 1 and Tariff 2
Partial active energy	ΣL-Tariff 1 and Tariff 2
THD% voltage	L1, L2, L3
THD% current	L1, L2, L3

Communication (▲)

IR - side: M-Bus, Modbus RTU, KNX, LAN/TCP, SD-Card

	LAN	LAN
	1/1 A till 2.000/1 A	5/5 A till 10.000/5 A
	ECSEM181	ECSEM172
Code	6	6
Connection	3 x 150 ... 260 / 276 ... 480	3 x 150 ... 260 / 276 ... 480
Operating frequency range	48 ... 62	48 ... 62
Starting current (Ist)	1	5
Reference current (Iref)	1	3
Main supply	SELF	SELF
System connectivity	Through CT (4)	Through CT (4)
Display	LCD	LCD
Display green backlighted	YES	YES
Main terminal	4	4
Operating temperature	-10 to +55°C	-10 to +55°C
Pulse output S0	1	1
Measuring accuracy:	V - A - P (reading)	±0.5%
	PF (4 quadrants)	±0.03
	Hz	±0.2
	EN 50470-1-3 active energy class B EN 62053-23 reactive energy class 2	B (1%)
Voltage	● ■ ▲	● ■ ▲
Current	● ■ ▲	● ■ ▲
Power Factor	● ■ ▲	● ■ ▲
Frequency	● ■ ▲	● ■ ▲
Active Power	● ■ ▲	● ■ ▲
Reactive Power	● ■ ▲	● ■ ▲
Apparent Power	● ■ ▲	● ■ ▲
Import Active Energy	● ■ ▲	● ■ ▲
Export Active Energy	● ■ ▲	● ■ ▲
Import Reactive Energy	● ■ ▲	● ■ ▲
Export Reactive Energy	● ■ ▲	● ■ ▲
Partial active energy	● ■ ▲	● ■ ▲
THD% voltage	● ■ ▲	● ■ ▲
THD% current	● ■ ▲	● ■ ▲
	YES	YES

eVision-Module

Interface with embedded Web App



Characteristics

Communication link (LAN)	
Connection	
Code	
According to norm general EN 61000-6-2-3, EN 61000-4-2	
According to norm general	
Housing DIN modules	
Suitable 1 / 3-phase energy, Power Meters and Network Anal.	
Power supply	
Voltage range	230 V AC ±20 %
Self supplied	-
Aux. power rating	≤1.5 Watt
Frequency range	45 ... 65 Hz
Operation feature	
Memory storage	2 Giga byte
Bus - HW interface	2 screw clamps + RJ 45
Bus - SW protocol	TCP / IP
Bus - Bandrate	≤100 Mbit/s
Addressing	by means of it IP address
User interface for setup and management	W3C HTML 4.01
Interface to instruments	optical IR
HW interface	2 (Tx, Rx)
SW protocol	proprietary
Real time clock	YES
Safety acc. to IEC 60950	
Degree pollution	2
Overvoltage category	II
Working voltage	... 300 V AC
Test voltage impulse	(1,2/50 μs) peak value kV
	50 Hz 1 min kV
Environmental conditions	
Operating temperature	-10 to 55°C
Limit temperature of storage	-25 to 70°C
Relative humidity	≤80%
Vibrations amplitude at 50 Hz	±0.25 mm
Protection class	II
Degree of protection	IP 20

	LAN
	Through side IR
	ECSLG02
Code	YES
According to norm general	EN 60950
Housing DIN modules	1
Suitable 1 / 3-phase energy, Power Meters and Network Anal.	YES
Voltage range	230 V AC ±20 %
Self supplied	-
Aux. power rating	≤1.5 Watt
Frequency range	45 ... 65 Hz
Memory storage	2 Giga byte
Bus - HW interface	2 screw clamps + RJ 45
Bus - SW protocol	TCP / IP
Bus - Bandrate	≤100 Mbit/s
Addressing	by means of it IP address
User interface for setup and management	W3C HTML 4.01
Interface to instruments	optical IR
HW interface	2 (Tx, Rx)
SW protocol	proprietary
Real time clock	YES
Degree pollution	2
Overvoltage category	II
Working voltage	... 300 V AC
Test voltage impulse	(1,2/50 μs) peak value kV
	50 Hz 1 min kV
Operating temperature	-10 to 55°C
Limit temperature of storage	-25 to 70°C
Relative humidity	≤80%
Vibrations amplitude at 50 Hz	±0.25 mm
Protection class	II
Degree of protection	IP 20

Application example

- = Measured parameters displayed
- = Measured parameters through built-in Bus
- ▲ = Measured parameters through IR side modules

For more information about technical data, overall dimensions and wiring diagrams link to: www.hhcontrols.com



eVision Energy Meter and eVision Module: An intelligent System with a built-in LAN Server direct connectable via WEB Browser with WEB App



Home: Indication of the actual consumption and hour cost of your house or office.



Cost: Visualization of the month and day balance showed in your currency. Possibility to have the indication of generated Energy if there are solar panels or windmills.



Graph: A clear and friendly indication of your consumption flow expressed in kWh or currency for day, week, month or year with the possibility to compare it with the previous ones.



Events: Indication of the actual consumption and hour cost of your house or Possibility to set events. Once you will pass them, eVision and eVision Module will send you immediately an e-mail. You can receive also a day, week, month or year report whenever you wish.

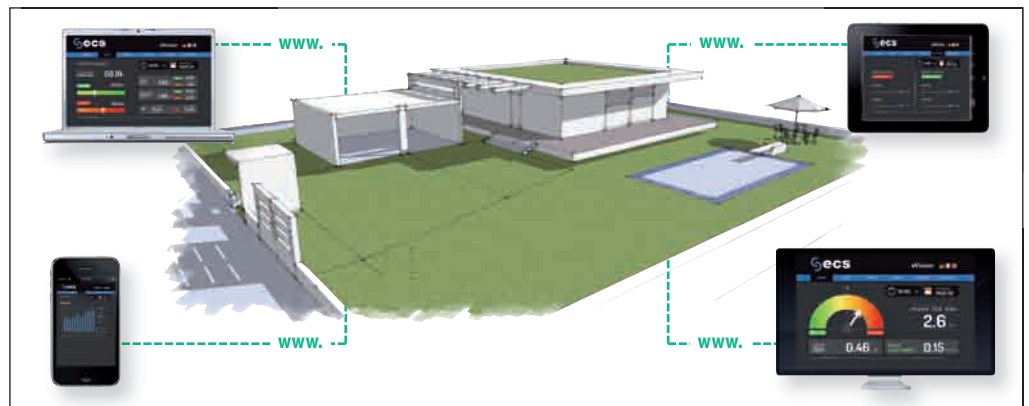


Setting: Set the Low and High Tariff cost for import and export energies.

The intelligent control of energy consumption

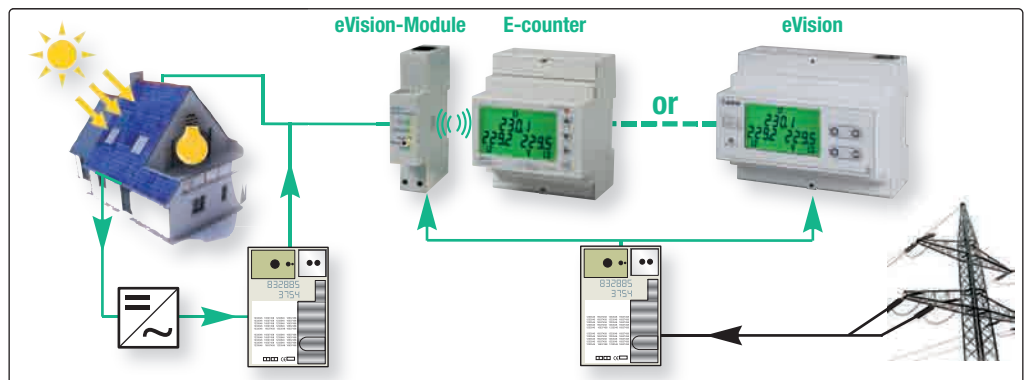
eVision and eVision Module are innovative devices that allow the user to know and analyze the flow of energy consumption of the house or office at all times. Through the collected and visualized information from the embedded WEB application of eVision and eVision Module, it is possible to optimize the use of the electric energy choosing the most convenient tariff hours in order to avoid excessive charges. eVision and eVision Module offer a concrete opportunity to reduce electricity bills and minimize CO2 emissions, contributing to a more sustainable future. Both systems have a very short return on investment. eVision and eVision Module constantly control the energy consumption of household appliances, lights, air conditioner, heaters, swimming pool pumps etc. and allow for the real time visualization of the energy cost of house or office, advising with an e-mail, once the set limits are exceeded. Because of the LAN connection, the user can consult eVision and eVision Module wherever he likes; through PC, Smartphone or Tablet. The Internet web access allows to analyze different information, including the instant consumption shown in kWh, or monetarily. The data can be shown in a clear and simple graphic. Unlike the other solutions available in the market, eVision and eVision Module are easy to install and to use. The installation procedures do not need any complicated modifications of existing plant. The LAN connection allows quick and simple installation (Plug & Play).

Consumptions and costs can be read directly from the display or via Internet in a more comfortable way.



Example of a possible installation for import and export energies in a solar plant or in Wireless.

eVision and eVision Module allow you to visualize with a simple click your actual, day, week, month and annual Energy consumption. Understand how and how much you are spending has never been so simple. eVision and eVision Module are perfectly adaptable to a solar plant. They will indicate the quantity of generated and consumed Energy calculating automatically the cost or the earning of your house or office.



Accessories

Flexible and modular frameworks: a single Kit for any kind of mounting

DIN rail (35 mm) and wall mounting frame for apparatus 6 modules wide

The new solutions for DIN rail Meter assembly leverage a universal approach that allows to exploit a two-component kit used either for surface mounting or for DIN rail mounting. For wall mounting the baseplate is easily fixed to any wall through normal fastening systems that allows emplacement of the modules (six modules DIN) thus providing a solid and reliable lock. Once modules have been installed and the baseplate has been fixed on the wall, it is possible to complete the assembly completes by securing the cover frame, with two screws with holes for security seals. Mounting on DIN rail leverages the same baseplate, which locks the modules below fixed on the DIN rail through proper snap clips. The installation completes with the front mask, which perfectly adapts to the shape of the DIN rail by simply opening two slots on the sidewalls removing the preset-breaking windows.



Selection and ordering data

Code	Type	Description	Packaging
289010	PMK 6 Mod.	6 modules housing for surface and DIN rail mounting	2 pieces

For DIN rail apparatus from 1 to 8 modules wide

The new modular framework solution of ECS can be arranged with a variable number of DIN modules directly on the front door of any cabinet. The frame is scalable as needed, by simply exploiting flexible extensions of one, to 8 modules. Extensions lock to each other to configure the needed capacity. The resulting framework provides a remarkable stability and high mechanical resistance. Modules array is placed on a DIN rail supplied with the framework kit. The DIN rail provides preset cutoff points clearly marked with numbers and graphical signs.



Selection and ordering data

Code	Type	Description	Packaging
ECSAC04	PMK 8 Mod.	DIN rail frame kit 1-8 modules	3 pieces

Frame 96 x 96 mm for DIN rail apparatus 2 - 3 - 4 modules wide

Fundamental accessory if the user wants to substitute a 96 x 96 device with a DIN rail device. Available for apparatus 2 - 3 - 4 DIN modules wide.



Selection and ordering data

Code	Type	Description	Packaging
ECSAC05	PMK 96 x 96 - 4 Mod.	96 x 96 frame for 4 modules	3 pieces
ECSAC06	PMK 96 x 96 - 3 Mod.	96 x 96 frame for 3 modules	3 pieces
ECSAC07	PMK 96 x 96 - 2 Mod.	96 x 96 frame for 2 modules	3 pieces

Split-core current transformer Serial ECS..B../...M Isec .../1A Isec .../5A with Accuracy class 1 / 3 - conform IEC 60044-1

The very compact split-core current transformer is especially designed for connection to digital measurement systems. Correct closing of the current sensor is guaranteed by a distinct sound of a "click". For fixing, are suggested two UV resistant Ty-Raps that can be easily mounted around the primary conductor.

Technical specification

Safety and Environmental conditions

- Safety standard (certified): UL / EN61010 - IEC / EN60044-1
- Nominal Phase Angle Error and Nominal Linearity Error: Conform IEC 61869-2 (for Isec .../1 A) Conform IEC 60044-1 (for Isec .../5 A)
- Built-in overvoltage protection: Yes
- Operating Frequency range: 50/60Hz
- Measurement range: From 5% till 120%
- Max. operation voltage: 720 V
- AC - Isolation resistance: 3 kV for 1 minute
- Pollution degree: cat. II or cat. III 600 VAC
- Operating temperature: -20 °C till +55 °C
- Relative humidity: 0% till 85% non condensing
- Housing Material: Conform UL94 - V0



Split-core technology



Smart metering



Easy to install



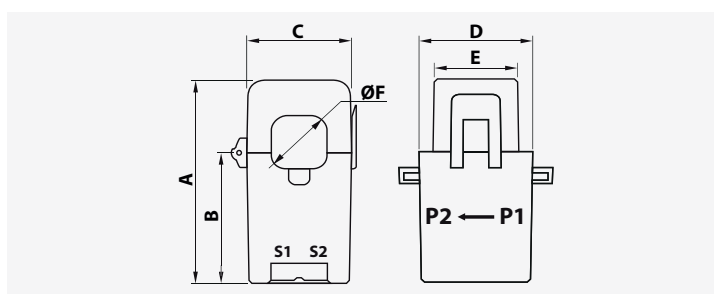
Fire protection



Small size light weight



Dimension



Code	A	B	C	D	E	ØF
ECS17B...	64.1	41.1	33.1	35.8	26.2	17
ECS18B...	77,6	49,1	44.1	35.8	26	18

Selection and ordering data

Code	Ratio Iprim/Isec	Accuracy Class*	Burden VA	Primary window Ø mm	Secondary leads length meter	Weight grams
ECS17B60/1CL3M	60/1 A	3	0.2	17	3	0.195
ECS18B100/1CL1M	100/1 A	1	0.2	18	3	0.27
ECS18B150/1CL1M	150/1 A	1	0.2	18	3	0.27
ECS18B100/5CL3M	100/5 A	3	1.0	18	3	0.27
ECS18B150/5CL1M	150/5 A	1	1.0	18	3	0.27

* Accuracy conform IEC 60044-1, valid from 5% till 120% Iprim

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