

Step 1

Select application level by business type

FACILITIES

	Application Level:		
	Min.	Recommended	
Buildings	1	3	+ BILLING
Data Center	1	4	+ BILLING
Hospital	3	4	+ BILLING
Theme Park; Casino	1	2	+ BILLING
University	1	2	+ BILLING
Chemicals	3	4	
Food & Beverage	1	3	
Iron & Steel	3	4	
Mining	1	3	
Plastic & Process	1	3	
Semiconductors	3	4	

BILLING

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UTILITIES

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Step 2

Select device by load type per application

Application	Main Service	Secondary MCC	Major Load*	Regular Load**	
FACILITIES	LEVEL 1 Loading Monitoring	PM13xE	PM13xE	PM13xE	PM13xP
	LEVEL 2 Energy Efficiency	PM172E	PM172E	PM172E	PM13xE
	LEVEL 3 Power Quality Analysis (PQA)	PM175	PM13xEH / EM133	PM13xEH / EM133	PM13xE
	LEVEL 4 PQA, DFR & Fault Location	PM180	PM175	PM13xEH / EM133	PM13xEH / EM133
BILLING	Billing (LV connection)	PM175	PM135EH	PM135EH	BFM-II
	Billing (MV connection)	PM180	PM135EH	PM135EH	BFM-II
UTILITIES	Power Generation	PM175	PM172E	PM172E	PM13xE
	Transmission Substation	PM180	PM180	PM13xEH / EM133	PM13xEH / EM133
	Distribution Substation & Transformers	PM13xEH / EM133	PM13xEH / EM133	DI sensing	DI sensing
	Renewable (LV connection)	PM13xEH / EM133	DI sensing	DI sensing	DI sensing
	Renewable (MV connection)	PM180	PM175	PM13xEH / EM133	PM13xEH / EM133









* One of the following: medium voltage / 630A or more / 20% of total load or more / has history of issues / is critical to operation

** Never leave unmeasured load. Small loads can be monitored in groups, either in higher level or grouped with CTs/HACS

Step 3

Fine tune device selection

Minimum recommended device based on the application and the location (see other side).
For better performance choose devices listed to the right of the recommended device.

								
	PM130P	PM13xE / EM132	BFM136	BFM-II	PM13xEH / EM133	PM172E	PM174 / PM175	PM180 / EM720 / EM920
Type	Low Cost Power Meter	Cost Effective Energy Meter	Multi-Channel 12 x 3-phase	Modular Multi-Ch. 6-18 x 3-phase	Energy & Harmonic Monitoring	Accurate Meter Data Logger	Power Quality Analyzer	High End Power Quality Analyzer
Real Time Measurements	✓	✓	✓	✓	✓	✓	✓	✓
Accuracy (Class)	0.5S	0.5S	0.5S	0.5S (0.2S*)	0.5S (0.2S*)	0.2S	0.2S & Class S	0.2S & Class A
TOU Energy		PM135E	✓	✓	PM135EH / EM133	✓	✓	✓
Harmonics				25*	40	✓	50	60
Power Quality				Partial PQ*	Partial PQ	Partial PQ	✓	✓
Memory (MB)	0.06	PM130: 0.06 PM135/EM132: 0.12	8	256	PM130: 0.06 PM135/EM133: 0.12	1	1	PM180: 256 EM720/920: 16
Relay Outputs (min-max)	0-4	0-4		0-18	PM13xEH: 0-4 EM133: 1-4	2-4	2-4	PM180: 0-24 EM720: 0-4 / EM920: 1-7
Max Analog Outputs	4	4			4	2	2	PM180: 12 EM920: 4
Max Digital Inputs	12	12		72	PM13xEH: 12 EM133: 2+12	2+2	2+2	PM180: 48 EM720: 4+4 / EM920: 2+8
Max Analog Inputs				16		2	2	PM180: 12
No. of Comm. Ports (min-max)	1-2	1-2	1-2	1-5	1-2	1-2	2	PM180: 3-6 EM720: 3-5 / EM920: 3-6
Display	7 segment/LED	PM130: 7 seg./LED PM135: graphic LCD EM132: 2x16 char.	2x16 char. LCD	3.5" color touch LCD	PM130: 7 seg./LED PM135: graphic LCD EM132: 2x16 char.	7 seg./graphic LCD	7 seg./graphic LCD	All: Graphic LCD PM180: 7 seg. option
Mounting	Panel	PM13x: Panel EM132: DIN	DIN	DIN	PM13x: Panel EM133: DIN	Panel	Panel	PM180: Panel/DIN EM720: Wall EM920: Socket/Wall

* = Option