

AMBIENT TEMPERATURE	40°C	WINDING DATA									
TEMPERATURE RISE	H	Winding code		M0							
INSULATION CLASS	H	Number of leads		12							
POWER FACTOR	0,8	Winding pitch		2/3							
FREQUENCY	Hz	50				60					
VOLTAGE	Star series	V	380	400	415	440	380	416	440	460	480
	Star parallel		190	200	208	220	190	208	220	230	240
RATING	kVA		67	70	70	63	70	76	80	84	88
	kW		54	56	56	50	56	61	64	67	70
EFFICIENCY (%) @ 0,8 p.f.	4/4		88,0	88,3	88,6	89,2	87,6	88,4	88,8	89,1	89,0
	3/4		89,8	89,9	90,1	90,3	89,3	90,0	90,3	90,5	90,4
	2/4		91,1	91,2	91,2	90,8	90,5	91,0	91,2	91,4	91,3
EFFICIENCY (%) @ 1,0 p.f.	4/4		90,9	91,3	91,6	92,4	90,3	91,0	91,4	91,7	91,7
	3/4		92,4	92,6	92,9	93,2	91,7	92,3	92,6	92,8	92,8
	2/4		93,5	93,6	93,7	93,5	92,8	93,2	93,4	93,6	93,5
STAND-BY RATING (163/27)	kVA		74	77	77	69	77	83	88	92	97
STAND-BY EFFICIENCY (%) @ 0,8 p.f.			87,3	87,6	88,0	88,7	87,0	87,8	88,2	88,5	88,5
SHORT CIRCUIT RATIO (referred to class H rating)			0,38	0,40	0,43	0,54	0,30	0,34	0,36	0,37	0,39
REACTANCES (%) (referred to class H rating)											
Direct axis synchronous	x _d		389	367	341	273	487	440	417	399	384
Quadrature axis synchronous	x _q		163	154	143	115	205	185	175	168	161
Direct axis transient	x' _d		25,2	23,7	22,1	17,7	31,6	28,5	27,0	25,8	24,9
Direct axis subtransient	x'' _d		15,3	14,4	13,4	10,7	19,2	17,3	16,4	15,7	15,1
Quadrature axis subtransient	x'' _q		16,8	15,9	14,7	11,8	21,1	19,0	18,0	17,2	16,6
Negative sequence	x ₂		16,0	15,1	14,1	11,3	20,1	18,2	17,2	16,5	15,9
Zero sequence	x ₀		8,2	7,7	7,2	5,8	10,3	9,3	8,8	8,4	8,1

TIME CONSTANTS [s]

Open circuit (T' _{do})	0,775	Subtransient (T'' _d)	0,006
Transient (T' _d)	0,080	Armature (T _a)	0,008

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	Available on double bearing configuration (on request)
N-end bearing/Lubrication	6309 2RS1 C3 WT / Prelubricated
Weight [kg]	280
Inertia (J) [kgm ²]	0,71
Overspeed [min ⁻¹]	2250
Method of cooling	IC 01
Cooling air required [m ³ /s] @ 50/60 Hz	0,2 / 0,233
Degree of protection	IP 23
Type of construction available	B2 (B34 on request)
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,111
Overloads	10% for 1 hour
3-phase short circuit current	>= 300% (3 I _n) with aux. winding or PMG
Voltage regulation accuracy	+/- 0,5 % (@ rated load, balanced and non-distorting, p.f. 0,8)
Radio interference	EN 55011 Class B Group 1
Wave form THF	< 2%
Total harmonic content	< 2% (at no load)

STANDARDS

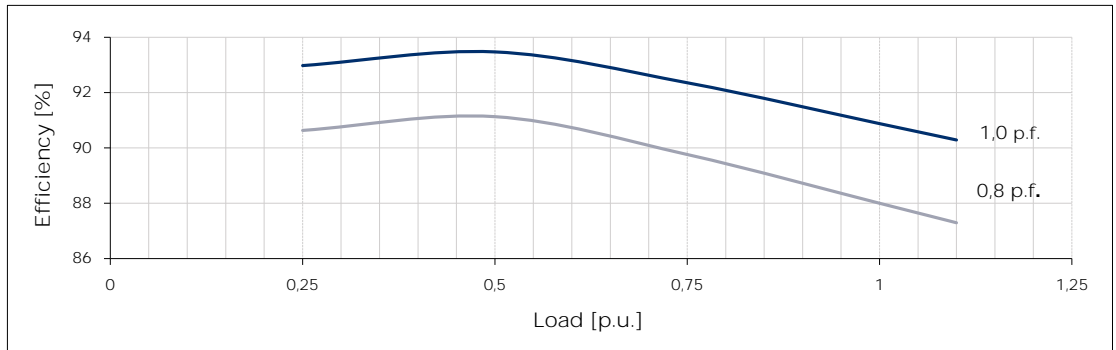
IEC 60034-1; BS 4999-5000; NEMA MG 1.32.
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THREE-PHASE SYNCHRONOUS GENERATOR
MXB-E 225 XA 4

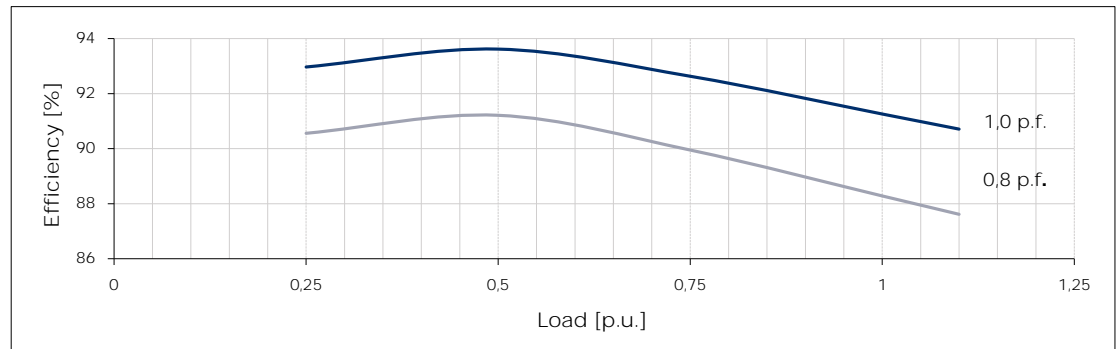
Typical efficiency curves

50 Hz - 1500 min⁻¹

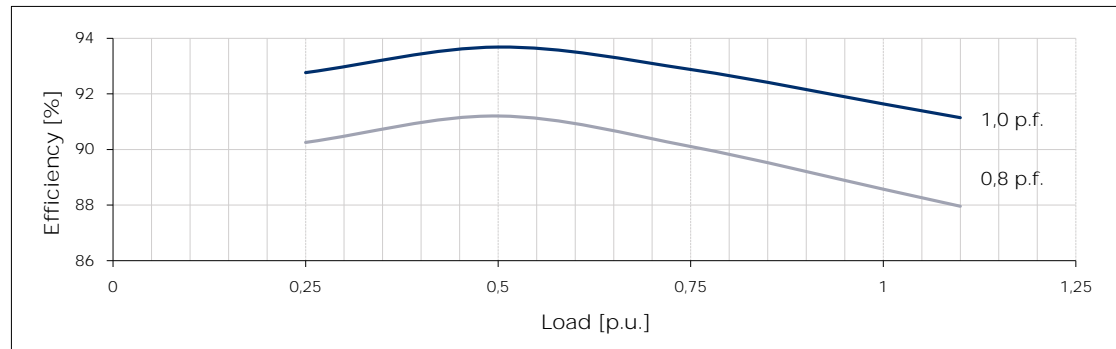
380 V



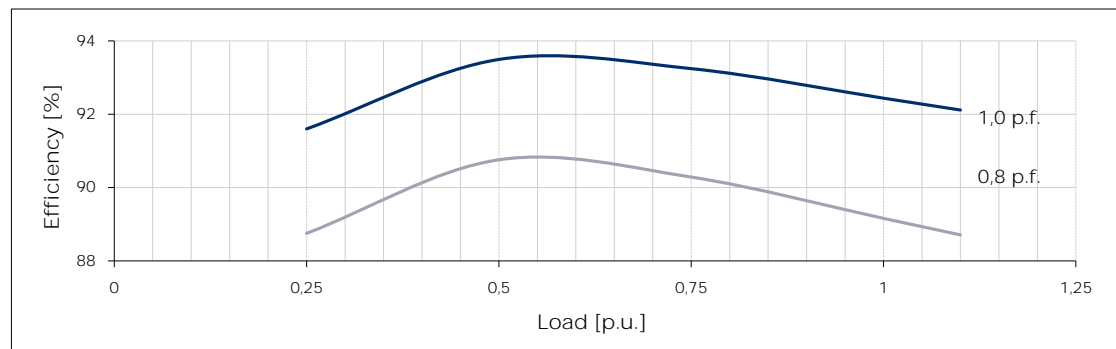
400 V



415 V



440 V

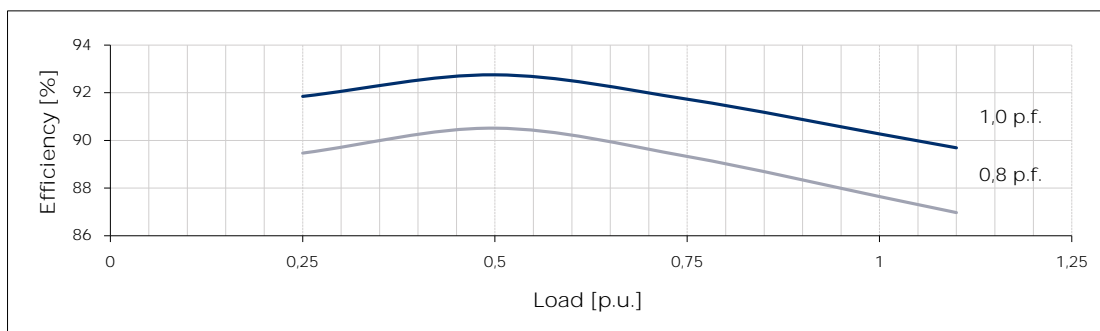


THREE-PHASE SYNCHRONOUS GENERATOR
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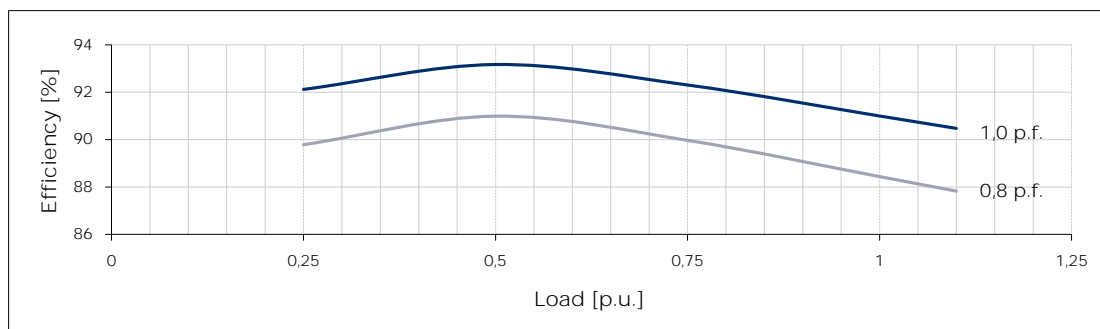
Typical efficiency curves

60 Hz - 1800 min⁻¹

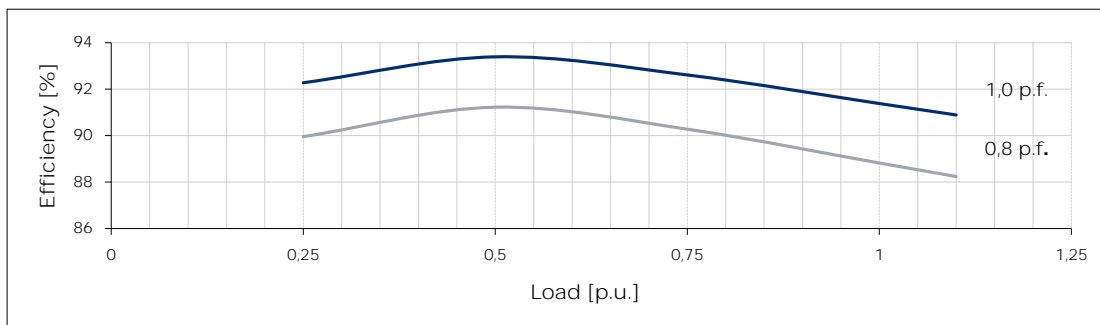
380 V



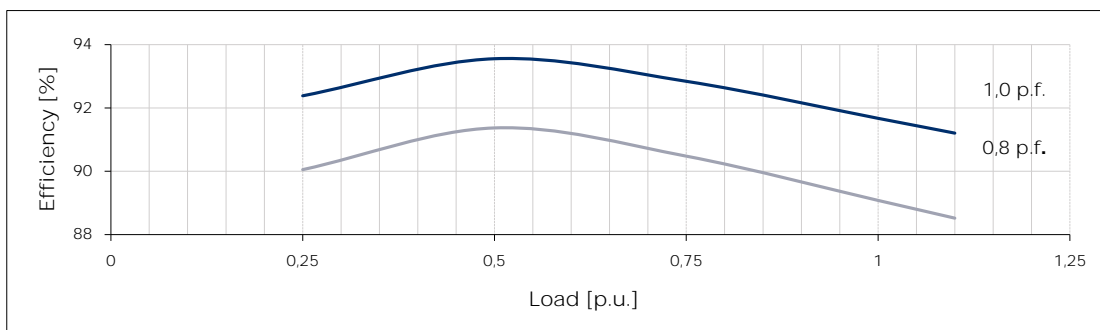
416 V



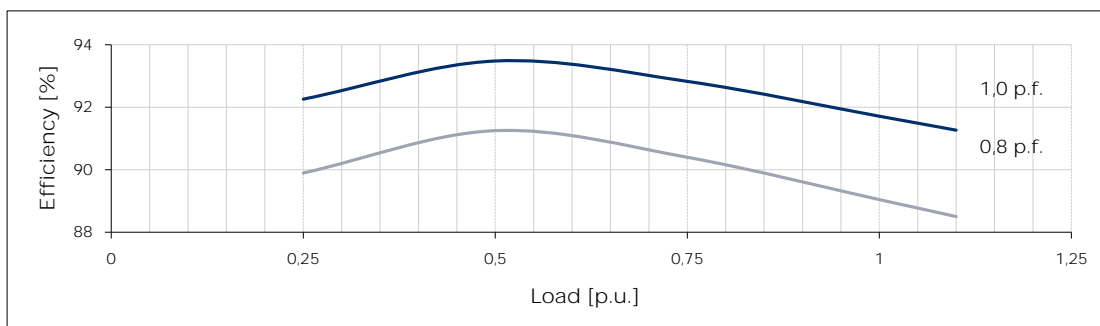
440 V



460 V



480 V





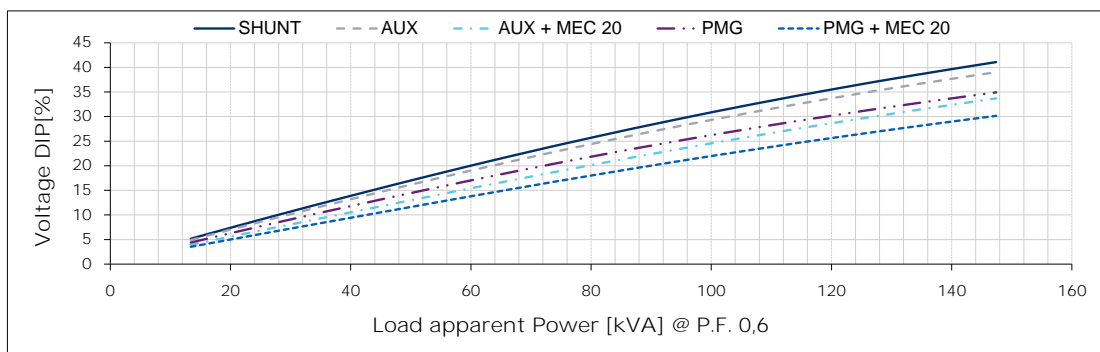
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Inspired solutions

THREE-PHASE SYNCHRONOUS GENERATOR MXB-E 225 XA 4

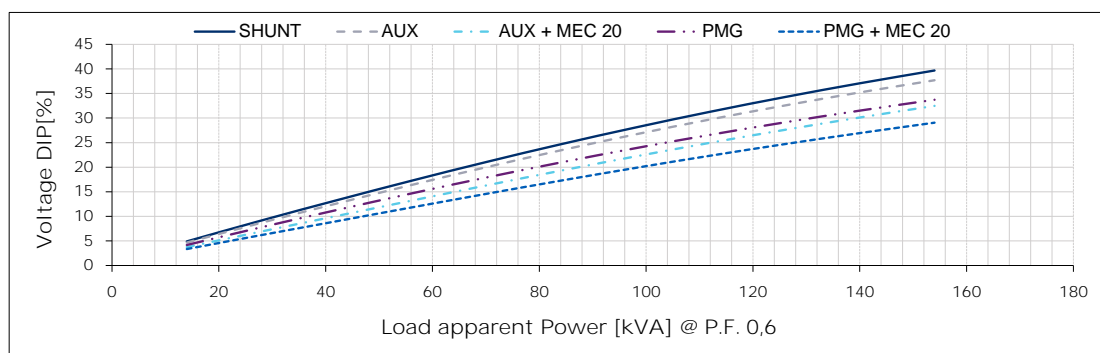
Typical voltage DIP curves

50 Hz - 1500 min⁻¹

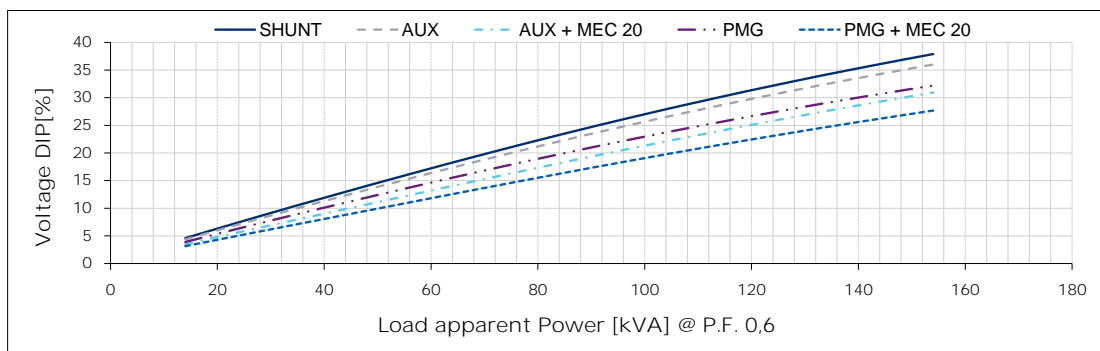
380 V



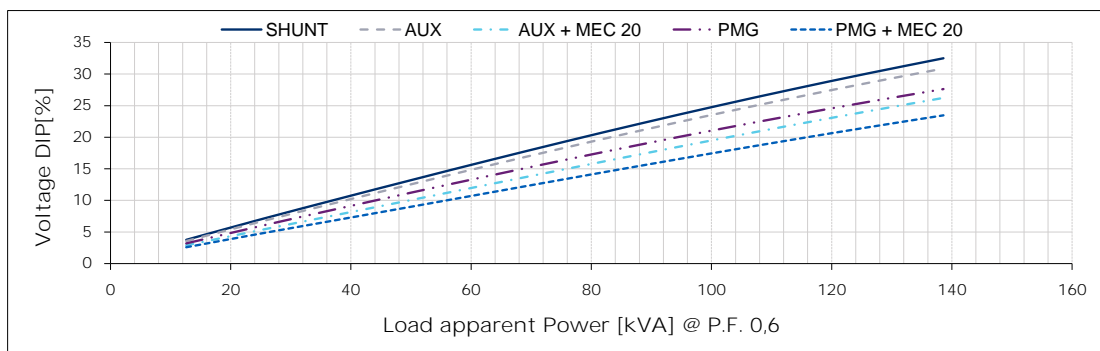
400 V



415 V



440 V





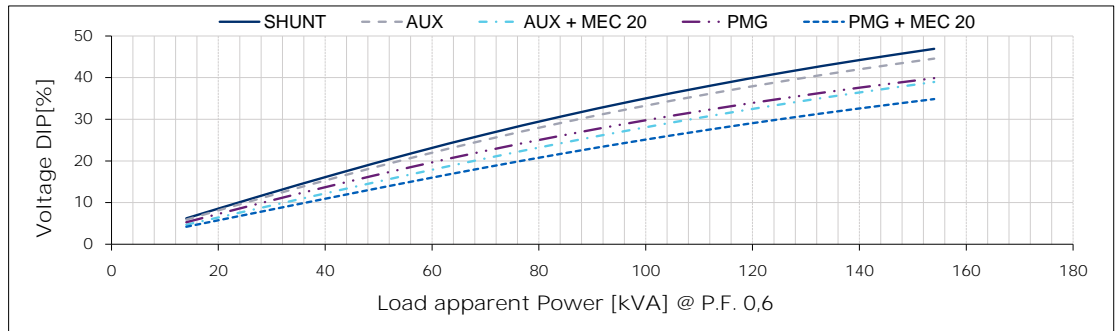
MarelliMotori
Inspired solutions

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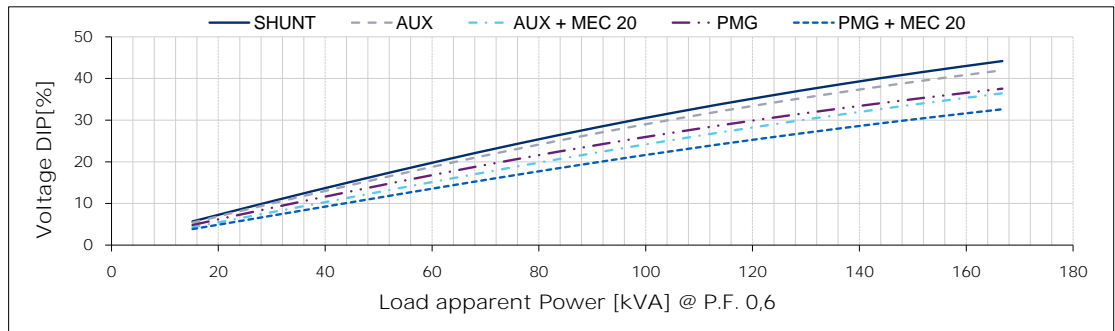
Typical voltage DIP curves

60 Hz - 1800 min⁻¹

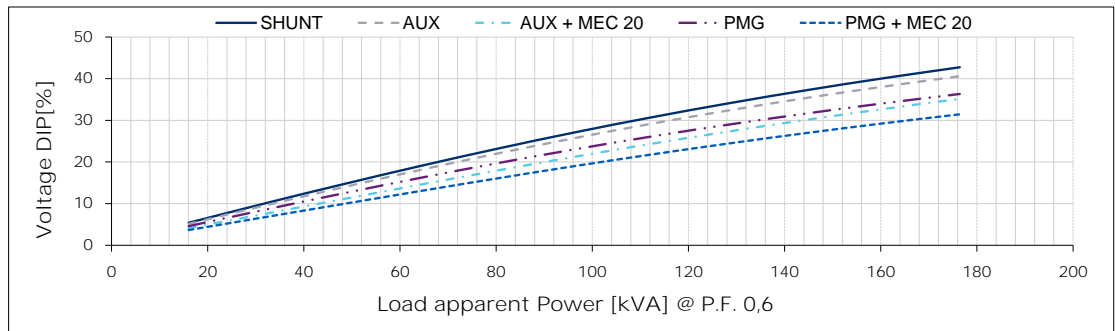
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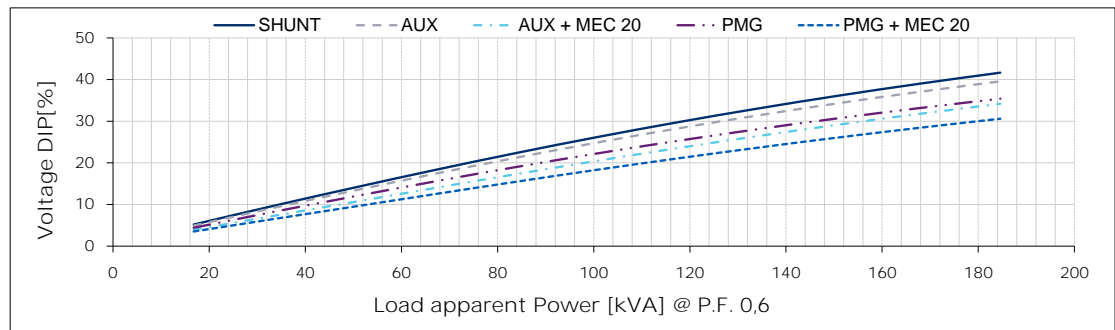
416 V



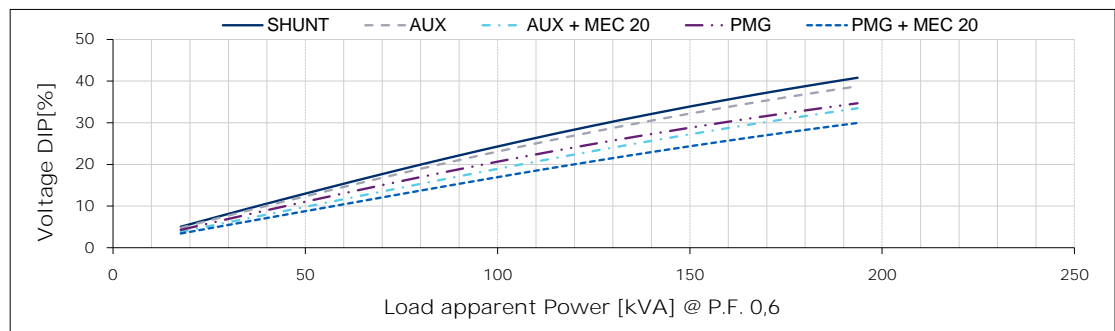
440 V



460 V



480 V



For P.F. different from 0,6 the following simplified formula can be used: $\Delta V @ P.F. = \Delta V @ 0,6 \cdot \sin(\arccos(P.F.)) / 0,8$

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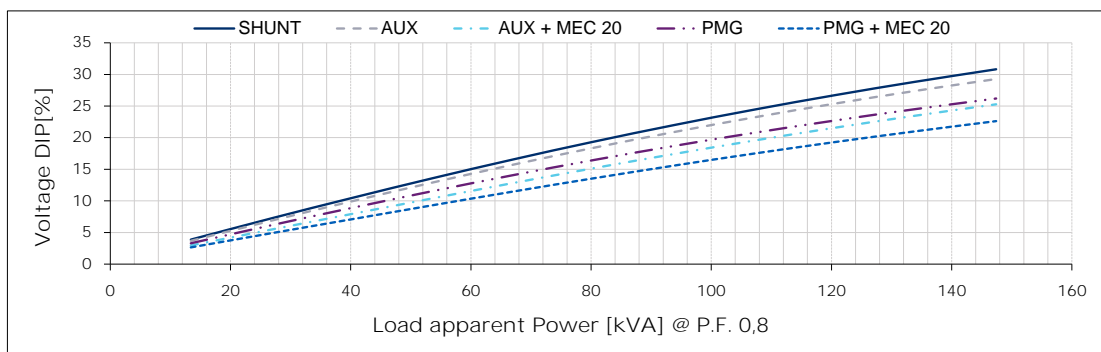
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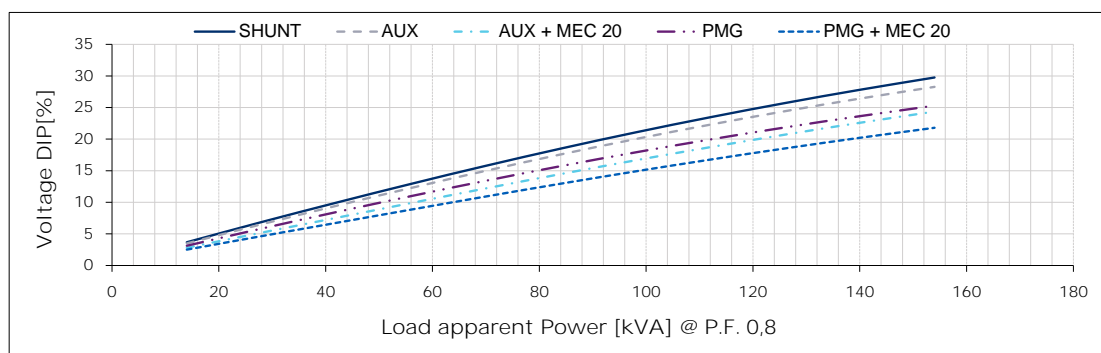
Typical voltage DIP curves

50 Hz - 1500 min⁻¹

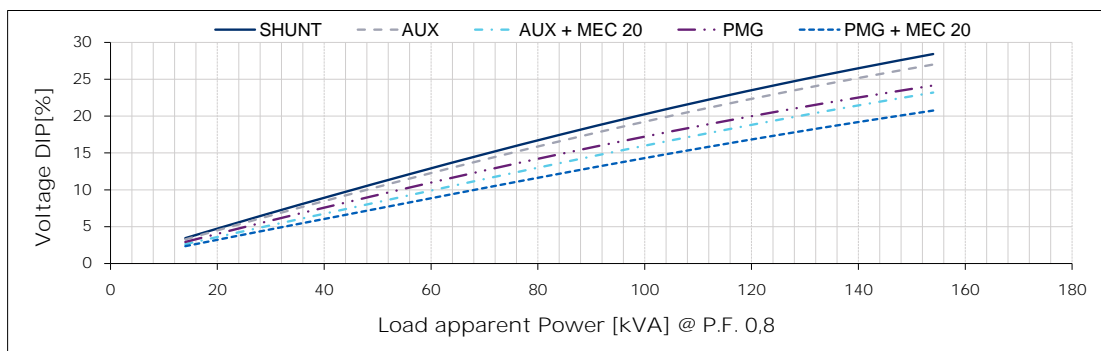
380 V



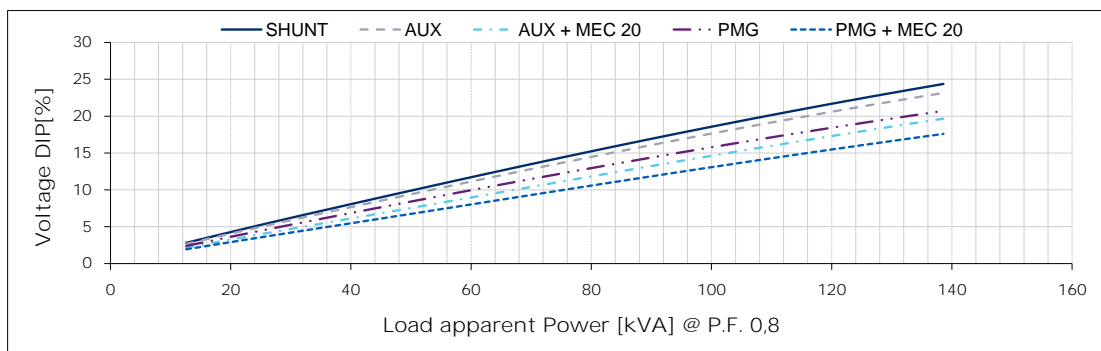
400 V



415 V



440 V





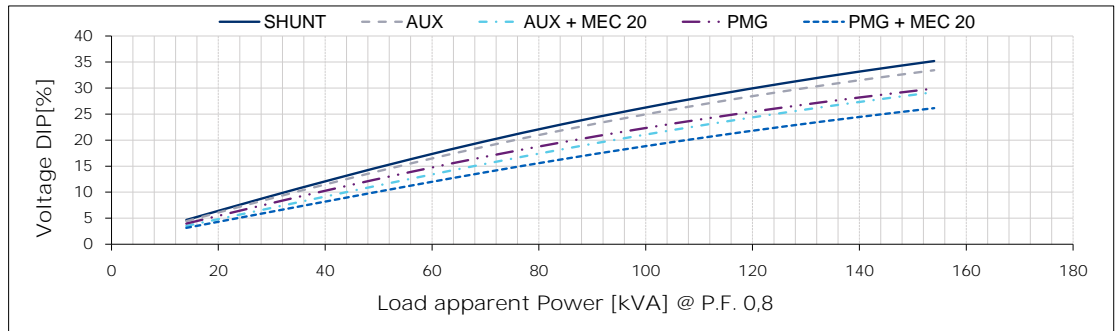
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THREE-PHASE SYNCHRONOUS GENERATOR MXB-E 225 XA 4

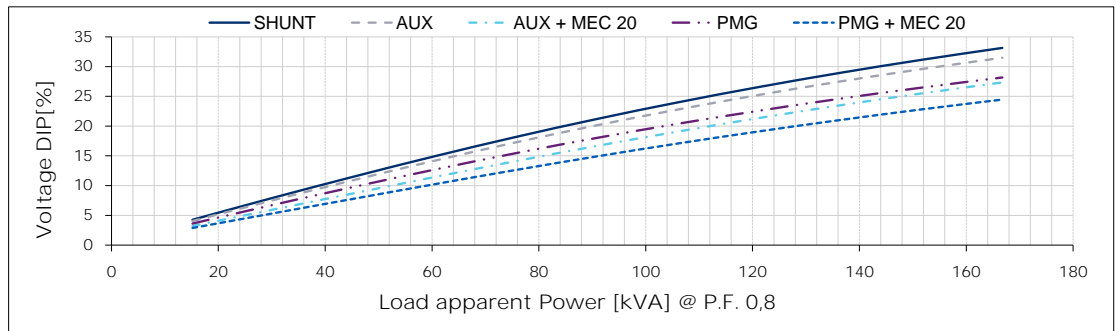
Typical voltage DIP curves

60 Hz - 1800 min⁻¹

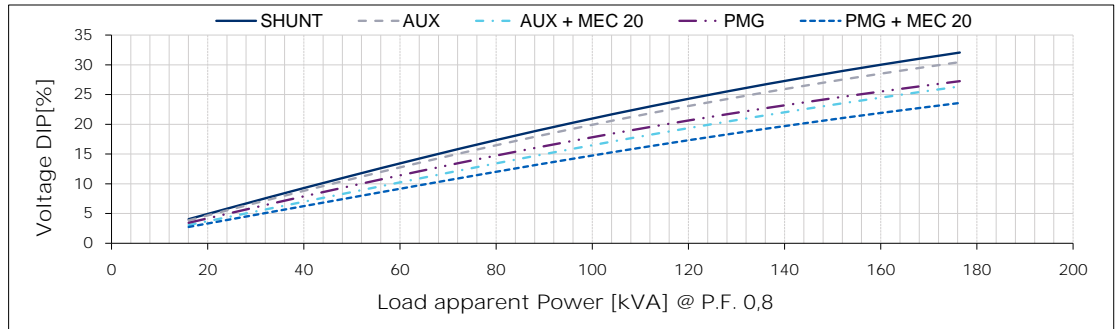
380 V



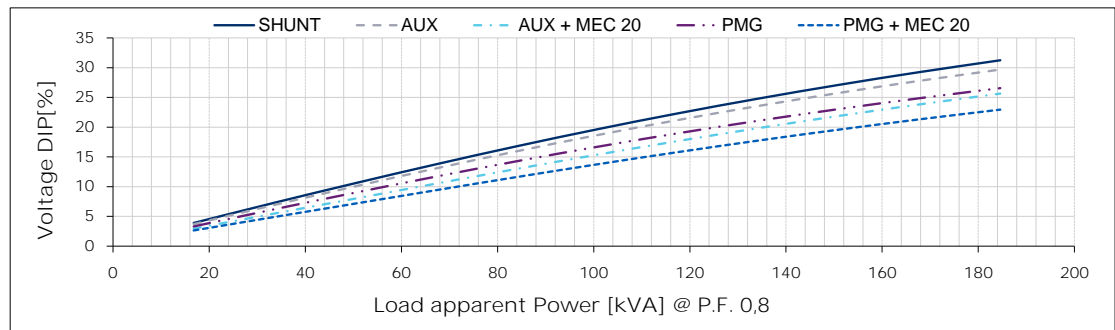
416 V



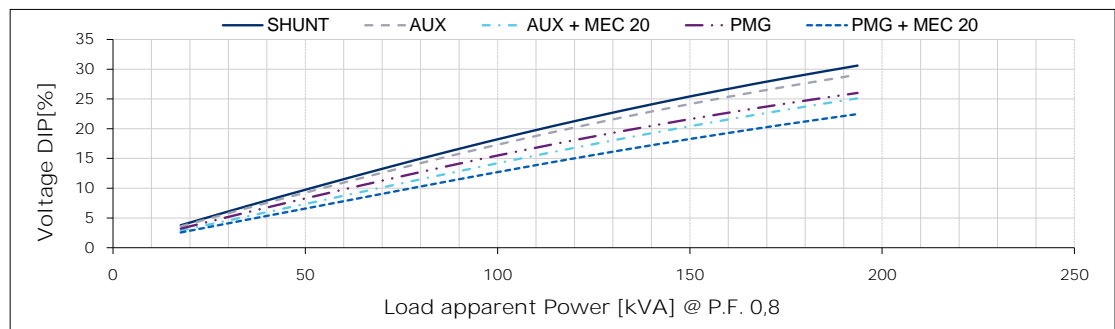
440 V



460 V



480 V

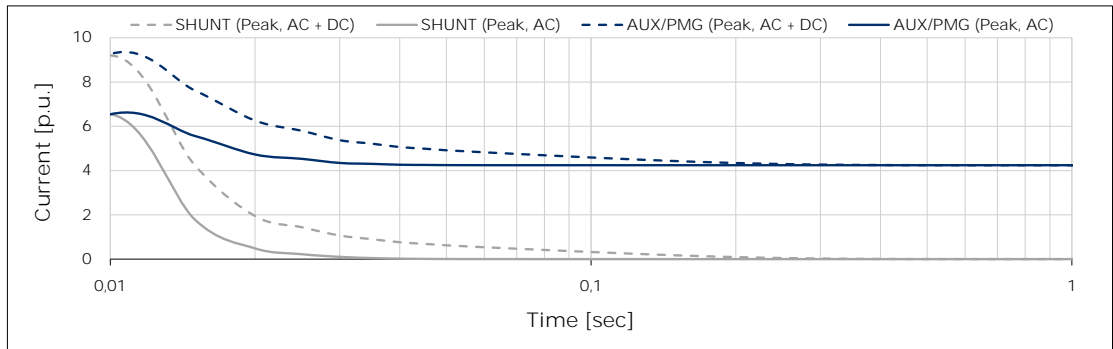


THREE-PHASE SYNCHRONOUS GENERATOR
MXB-E 225 XA 4

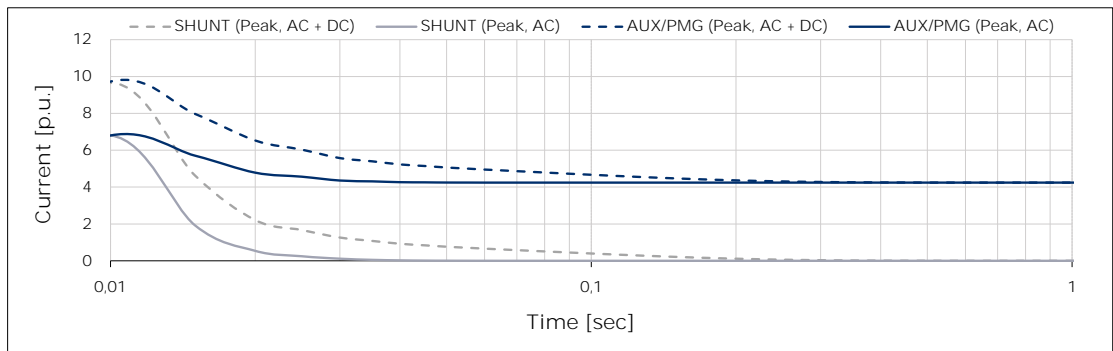
Typical 3-phase short circuit decrement curves

50 Hz - 1500 min⁻¹

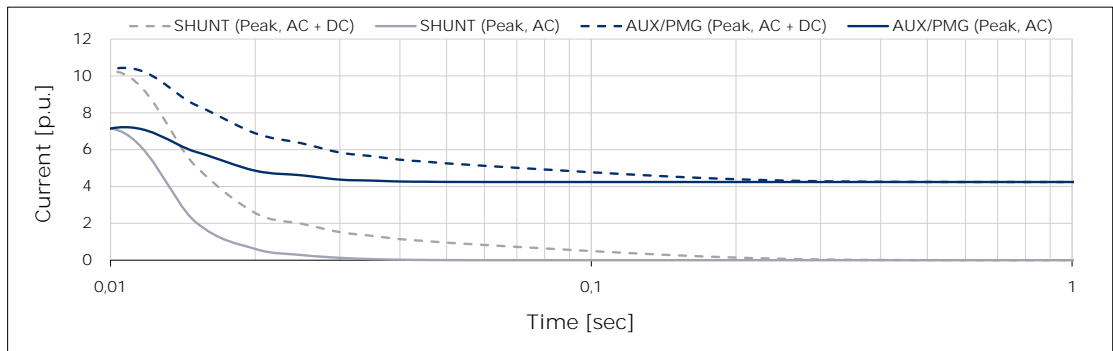
380 V



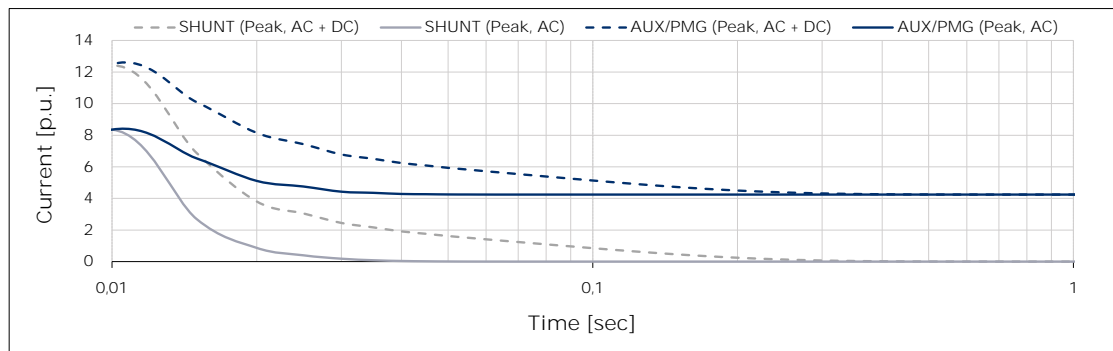
400 V



415 V



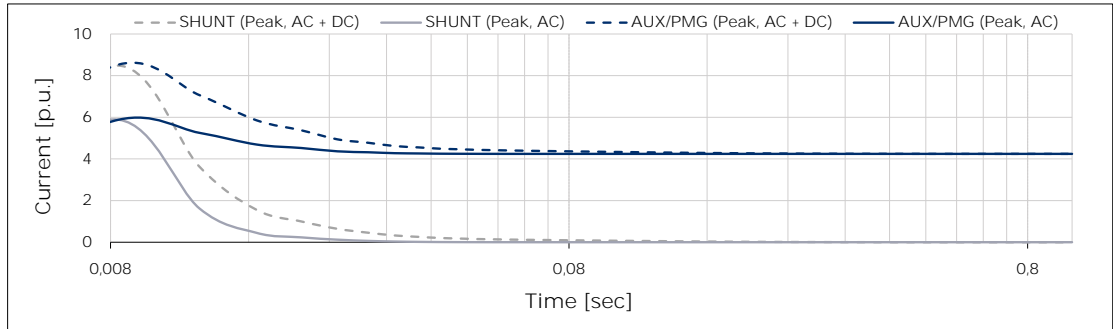
440 V



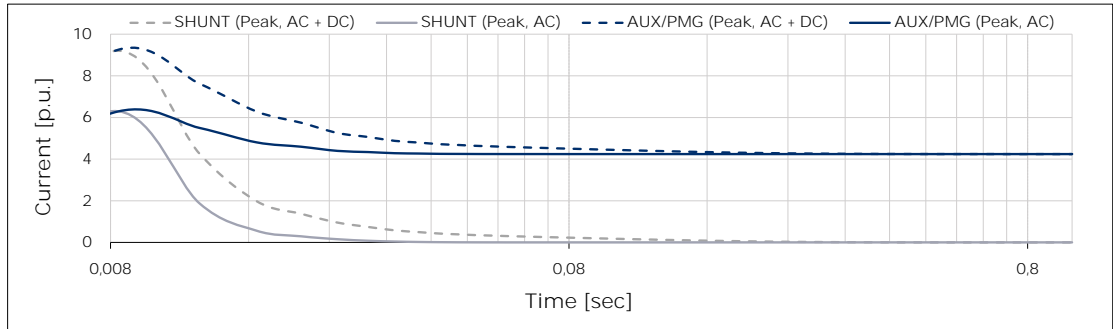
Typical 3-phase short circuit decrement curves

60 Hz - 1800 min⁻¹

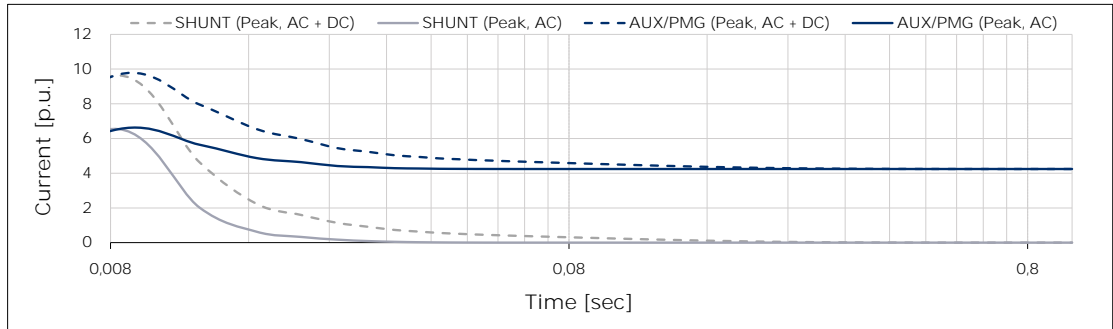
380 V



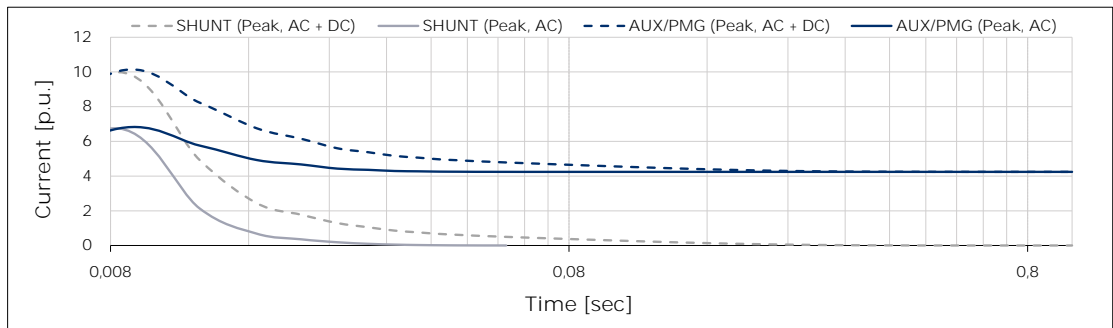
416 V



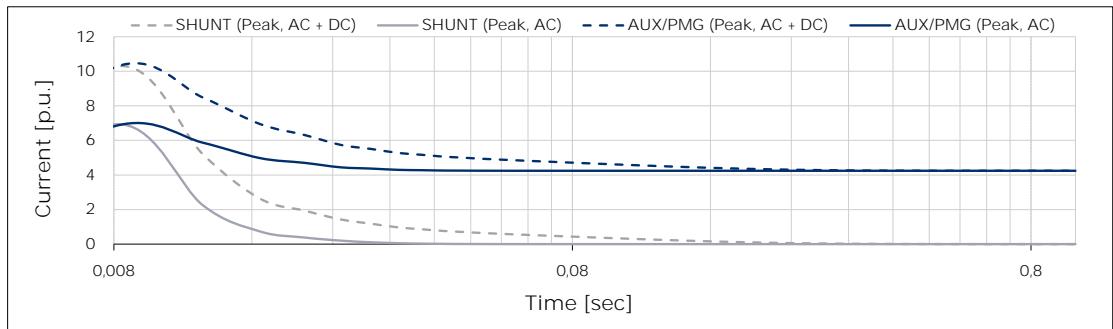
440 V



460 V



480 V

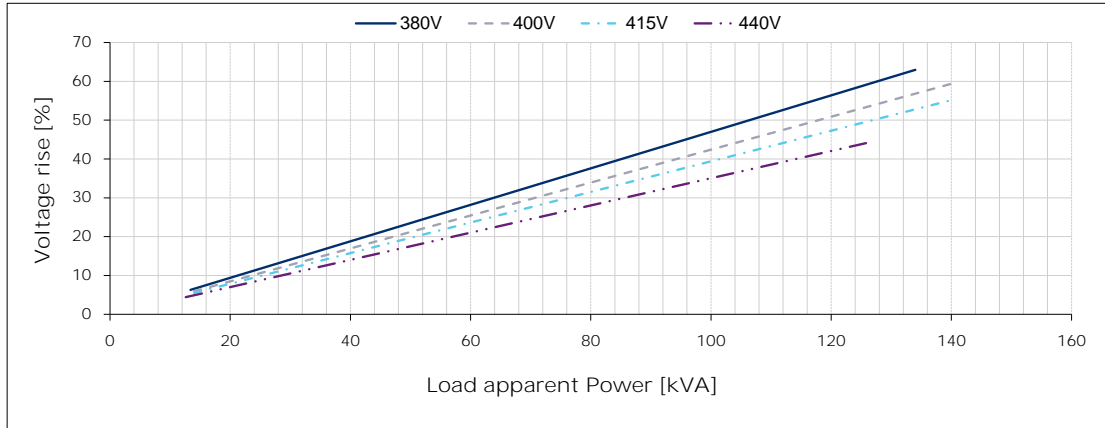


Above curves are based on a three-phase short circuit
For other type of short circuit use the following multiplication factors

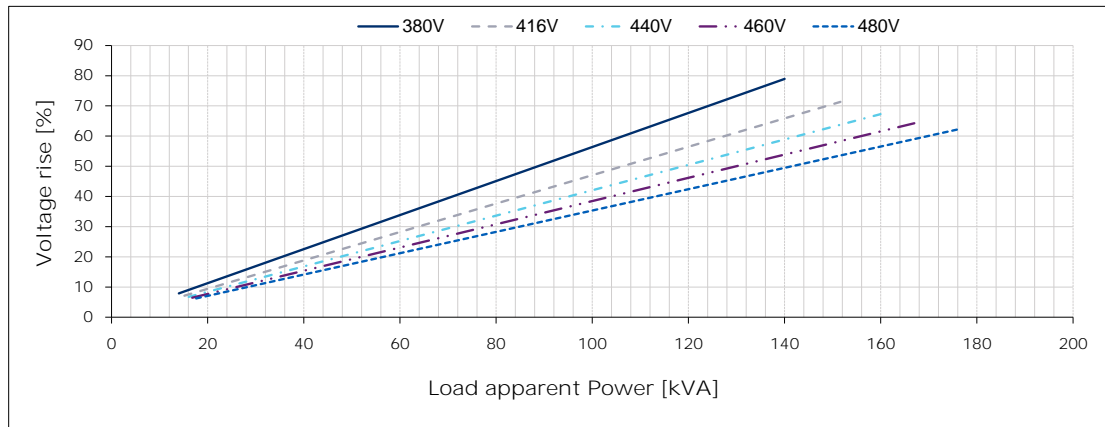
	2 phase	1 phase
Instantaneous (max)	1,02	1,25
Continuous	1,50	1,83

Typical load rejection curves

50 Hz - 1500 min-1



60 Hz - 1800 min-1



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