

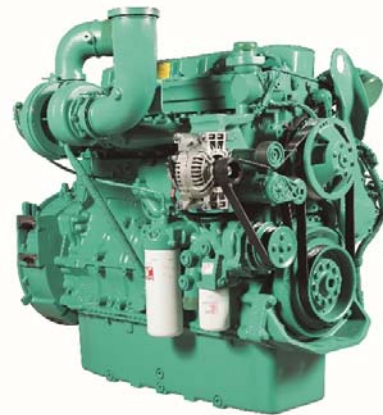
CUMMINS GENERATOR

500 KVA (400 KW)



QSZ13-G5

Emissions Compliance:
EU Stage II @ 50 Hz
U.S. EPA Tier 2 @ 60 Hz



> Specification sheet

Our energy working for you.™



Description

The QSZ13 engine is designed to meet the European Union (EU) Stage II and EPA Tier 2 generator set emission standards. Evolved from the proven and successful base engine platform of an automotive engine, which is widely accepted for its high levels of in-service reliability and performance, the QSZ13 engine utilizes the Cummins High Pressure Injection (XPI) fuel system.

The QSZ13 engine was developed using Cummins unique in-house capability, adapting core technologies in electronics, fuel systems, turbo charging, filtration, and emissions. The QSZ13 engine has low derating thresholds for temperature and altitude, coupled with 50°C ambient capable cooling system makes these engines top performers in the harshest conditions.

Robust, clean, resilient and capable of matching the duty cycle and operating conditions of many applications, the QSZ13 engine is ideally suited for both open and enclosed applications in either static or mobile equipment.



This engine has been built to comply with CE certification.



This engine has been designed in facilities certified to ISO9001 and manufactured in facilities certified to ISO9001 or ISO9002.

Features

Coolpac Integrated Design - Products are supplied complete with cooling package and air cleaner kit for a complete power package. A Heavy duty air cleaner is offered as an option.

Full Authority Electronic Dual Speed Engine - Advanced engine monitoring, diagnostics, protection and control, coupled with the XPI fuel system, capable of delivering extreme fuel injection pressures with multiple injection events, results in reduced emissions, improved fuel efficiency, lower noise and enhanced engine performance.

Fuel Filtration System – Three-stage fuel filtration system provides high levels of protection against fuel becoming contaminated with dust, dirt, or water.

Controls - Fitted with a Power Generation Interface (PGI) to improve emissions, the widely accepted SAE J1939 industry standard CAN based communication network provides advanced engine protection, ensuring faster connectivity along with a superior fault finding capability.

Crankcase Breather – Cummins patented variable impactor breather design and coalescing filter removes emissions as required by regulations, with the added benefit of eliminating oil drips and mist while keeping the surroundings clean.

Reduced Operating Costs – Extended service intervals for the oil and filter changes.

Service and Support – G-Drive products are backed by an uncompromising level of technical support and after sales support, delivered through a world class service network.

1500 rpm (50 Hz Ratings)

Gross Engine Output			Net Engine Output			Typical Generator Set Output					
Standby	Prime	Base	Standby	Prime	Base	Standby (ESP)		Prime (PRP)		Base (COP)	
kWm/BHP			kWm/BHP			kWe	kVA	kWe	kVA	kWe	kVA
470/630	411/551	370/496	452/605	393/526	352/470	400	500	364	455	330	413

1800 rpm (60 Hz Ratings)

Gross Engine Output			Net Engine Output			Typical Generator Set Output					
Standby	Prime	Base	Standby	Prime	Base	Standby (ESP)		Prime (PRP)		Base (COP)	
kWm/BHP			kWm/BHP			kWe	kVA	kWe	kVA	kWe	kVA
500/670	437/586	393/527	482/645	440/589	394/528	440	550	400	500	348	435

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General Engine Data

Type	4 Cycle, In-line, Turbocharged and Charge Air Cooled
Bore	130 mm (5.12 in.)
Stroke	163 mm (6.42 in.)
Displacement	13 litre (793 in. ³)
Cylinder Block	Cast iron, 6 cylinder
Battery Charging Alternator	35 amps
Starting Voltage	24 volt
Fuel System	XPI
Fuel Filter	Engine mounted, primary spin-on fuel filter, 7 micron, with water separator & Water in Fuel (WIF) sensor and secondary 3 micron spin-on fuel filter. Remote mounted 10 micron pre fuel filter supplied as standard scope.
Lube Oil Filter Type(s)	Spin-on full flow filter
Lube Oil Capacity	78 litre
Flywheel Dimensions	SAE1

Coolpac Performance Data

Cooling System Design	Air to Air, Charge Air Cooled
Coolant Ratio	50% ethylene glycol; 50% water
Total Coolant Capacity	62 litre
Limiting Ambient Temp. **	50° C
Fan Power (kWm)	18.1 (50 Hz), 31.5 (60 Hz)
Cooling System Air Flow (m ³ /s)**	8.1 (50 Hz), 10.3 (60 Hz)
Air Cleaner Type	Normal Duty dry replaceable element with restriction Indicator

** @ 13 mm H₂O duct restriction

Weight & Dimensions

Length	Width	Height	Weight (dry)
mm	mm	mm	kg
1389	1276	1050	1,245

Fuel Consumption 1500 (50 Hz)

%	kWm	BHP	L/h	US gal/h
Standby Power				
100	470	630	107	28.3
Prime Power				
100	411	551	93	24.6
75	308	413	70	18.6
50	205	275	49	13
25	103	138	30	7.9
Continuous Power				
100	370	496	84	22.2

Fuel Consumption 1800 (60 Hz)

%	kWm	BHP	L/h	US gal/h
Standby Power				
100	500	670	117	30.9
Prime Power				
100	437	586	107	28.3
75	328	440	81	21.4
50	218	293	54	14.3
25	110	147	35	9.2
Continuous Power				
100	393	527	96	25.4

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Ratings Definitions

Emergency Standby Power (ESP):

Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Limited-Time Running Power (LTP):

Applicable for supplying power to a constant electrical load for limited hours. Limited-Time Running Power (LTP) is in accordance with ISO 8528.

Prime Power (PRP):

Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Base Load (Continuous) Power (COP):

Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) in accordance with ISO 8528, ISO 3046, AS 2789, DIN6271 and BS 5514.



TAL 047

Low Voltage Alternator - 4 pole

410 to 660 kVA - 50 Hz / 510 to 825 kVA - 60 Hz
Electrical and mechanical data

LEROY-SOMER[™]

Nidec
All for dreams

Adapted to needs

The TAL alternator range is designed to meet the needs of general applications such as prime power and stand-by.

Compliant with international standards

The TAL range complies with international standards and regulations: IEC 60034 and derivative.

The range is designed, manufactured and marketed in an ISO 9001 and 14001 environment.

Electrical design

- Class H insulation
- Shunt excitation
- Low voltage winding:
 - Three-phase 50 Hz: 380V - 400V - 415V - 440V / 220V - 230V - 240V
 - 60 Hz: 380V - 416V - 440V - 480V / 220V - 208V - 240V
- 6-terminal plates in 6-wire version or suitable for 12-wire option
- Optimized performance

Robust design

- Compact and rugged assembly to withstand engine vibrations
- Steel frame
- Cast iron flanges and shields
- Single bearing design to be suitable with most diesel engines
- Sealed for life bearing
- Standard direction of rotation: clockwise when looking at the drive end view (for anti-clockwise, derate the machine by 5%)



Excitation and regulation system suited to the application

	Excitation system				Regulation options		
	AVR	Shunt	AREP	PMG	ULc/us	Remote voltage potentiometer	C.T. for paralleling
Three-phase 6-wire	R150	Standard				√	
	R180		Standard	Standard		√	√
	R450		Option	Option	√	√	√
Three-phase 12-wire*	R250	Standard			√	√	
	R180		Standard	Standard		√	√
	R450		Option	Option	√	√	√

√ : Possible option *with larger terminal box

Compact terminal box

- Easy access to AVR and terminals
- Standard terminal box with possibility of mounting measurement CTs
- Possibility of current transformer for parallel operation

Environment and protection

- IP Code IP 23
- Standard winding protection for non-harsh environments with relative humidity ≤ 95%

Available options

- Three-phase 12-wire with 9-terminal plates
- AREP or PMG excitation
- ULc/us
- Customized painting
- Space heaters
- Droop kit for alternator paralleling
- Stator sensors
- Winding 8 optimized for three-phase 380V - 416 V / 60 Hz
- Winding protection for harsh environments and relative humidity greater than 95% (system 2 - 4): for TAL 047 F apply a derating coefficient of 0.97

General characteristics

Insulation class	H	Excitation system 6-wire	SHUNT	AREP / PMG
Winding pitch	2/3 (wind.6S - 6-wire / wind.6 - 12-wire)	AVR type	R150	R180
Number of wires	6-wire (12-wire option)	Excitation system 12-wire (option)	SHUNT	AREP / PMG
Protection	IP 23	AVR type	R250	R180
Altitude	≤ 1000 m	Voltage regulation (*)	± 1 %	
Overspeed	2250 R.P.M.	Total Harmonic Distortion THD (**) in no-load	< 1.5 %	
Air flow (m ³ /s)	0.9	Total Harmonic Distortion THD (**) in linear load	< 5 %	
Air flow (m ³ /s)	1.1	Waveform: NEMA = TIF (**)	< 50	
AREP Short-circuit current = 2.7 In : 5 second		Waveform: I.E.C. = THF (**)	< 2%	

(*) Steady state (**) Total harmonic distortion between phases, no-load or on-load (non-distorting)

Ratings 50 Hz - 1500 R.P.M.

kVA / kW - P.F. = 0.8																
Duty / T° C	Continuous / 40 °C				Continuous / 40 °C				Stand-by / 40 °C				Stand-by / 27 °C			
Class / T° K	H / 125° K				F / 105° K				H / 150° K				H / 163° K			
Phase	3 ph.				3 ph.				3 ph.				3 ph.			
Y	380V	400V	415V	440V	380V	400V	415V	440V	380V	400V	415V	440V	380V	400V	415V	440V
Δ	220V	230V	240V		220V	230V	240V		220V	230V	240V		220V	230V	240V	
YY (*)				220V				220V				220V				220V
TAL 047 A kVA	390	410	410	385	355	375	375	350	415	435	435	410	430	450	450	425
kW	312	328	328	308	284	300	300	280	332	348	348	328	344	360	360	340
TAL 047 B kVA	430	455	455	430	390	415	415	390	455	480	480	455	475	500	500	475
kW	344	364	364	344	312	332	332	312	364	384	384	364	380	400	400	380
TAL 047 C kVA	475	500	500	460	430	455	455	420	505	530	530	490	525	550	550	505
kW	380	400	400	368	344	364	364	336	404	424	424	392	420	440	440	404
TAL 047 D kVA	525	550	550	535	480	500	500	485	555	585	585	565	580	600	600	590
kW	420	440	440	428	384	400	400	388	444	468	468	452	464	480	480	472
TAL 047 E kVA	585	600	600	570	530	545	545	520	620	635	635	605	645	660	660	625
kW	468	480	480	456	424	436	436	416	496	508	508	484	516	528	528	500
TAL 047 F (**) kVA	645	660	660	620	585	600	600	565	685	700	700	655	710	730	730	680
kW	516	528	528	496	468	480	480	452	548	560	560	524	568	584	584	544

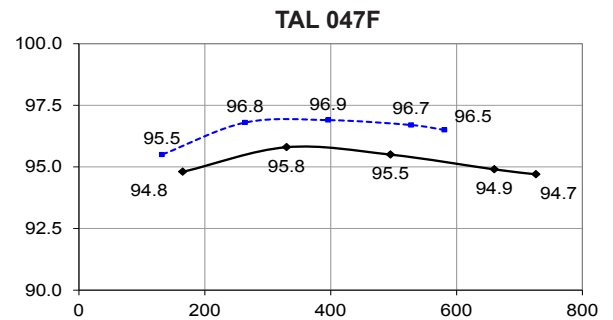
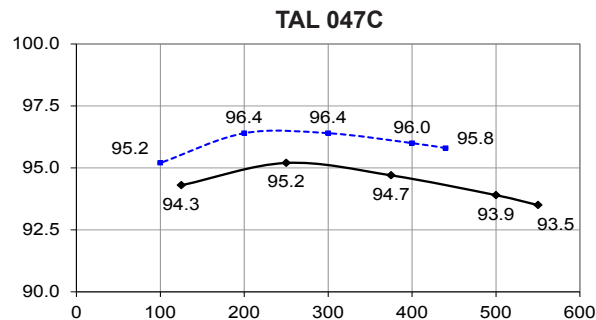
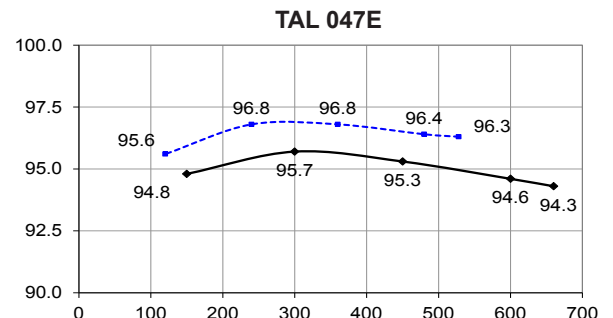
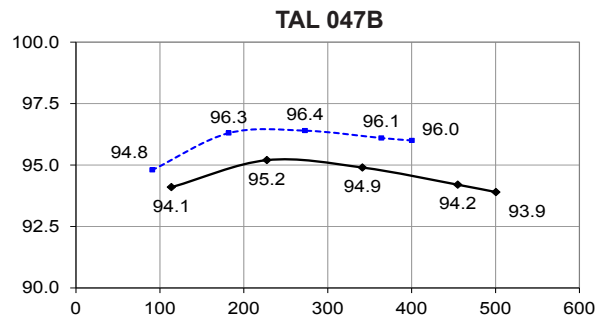
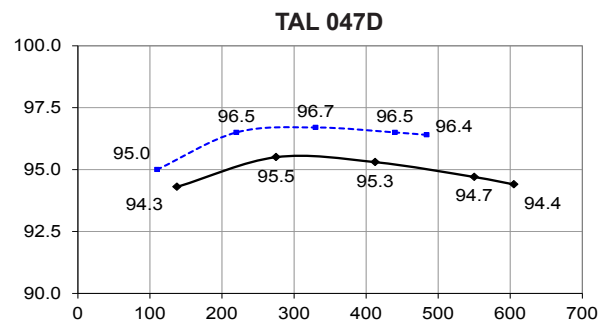
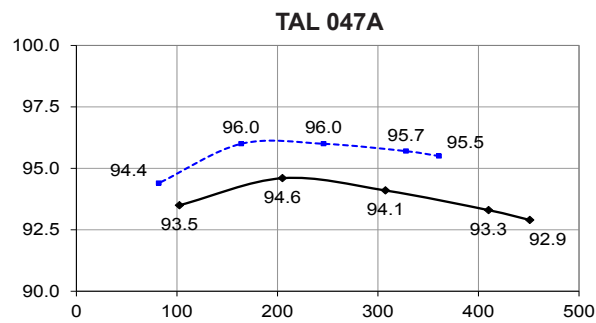
(*) 12-wire option (**) 6-wire only

Ratings 60 Hz - 1800 R.P.M.

kVA / kW - P.F. = 0.8																
Duty / T° C	Continuous / 40 °C				Continuous / 40 °C				Stand-by / 40 °C				Stand-by / 27 °C			
Class / T° K	H / 125° K				F / 105° K				H / 150° K				H / 163° K			
Phase	3 ph.				3 ph.				3 ph.				3 ph.			
Y	380V	416V	440V	480V	380V	416V	440V	480V	380V	416V	440V	480V	380V	416V	440V	480V
Δ	220V	240V	240V		220V	240V	240V		220V	240V	240V		220V	240V	240V	
YY (*)		208V	220V	240V		208V	220V	240V		208V	220V	240V		208V	220V	240V
TAL 047 A kVA	450	480	500	510	410	435	455	465	475	510	530	540	495	530	550	580
kW	360	384	400	408	328	348	364	372	380	408	424	432	396	424	440	464
TAL 047 B kVA	475	510	530	570	430	465	480	520	505	540	560	605	525	560	585	625
kW	380	408	424	456	344	372	384	416	404	432	448	484	420	448	468	500
TAL 047 C kVA	520	555	590	625	475	505	535	570	550	590	625	665	570	610	650	690
kW	416	444	472	500	380	404	428	456	440	472	500	532	456	488	520	552
TAL 047 D kVA	560	610	630	690	510	555	575	630	595	645	670	730	615	670	695	750
kW	448	488	504	552	408	444	460	504	476	516	536	584	492	536	556	600
TAL 047 E kVA	600	660	685	750	545	600	625	685	635	700	725	795	660	725	755	825
kW	480	528	548	600	436	480	500	548	508	560	580	636	528	580	604	660
TAL 047 F (**) kVA	650	715	755	825	590	650	685	750	690	760	800	875	720	785	830	910
kW	520	572	604	660	472	520	548	600	552	608	640	700	576	628	664	728

(*) 12-wire option (**) 6-wire only

Efficiencies 400 V 50 Hz (— P.F.: 0.8) (..... P.F.: 1)



Reactances (%). Time constants (ms) - Class H / 400 V

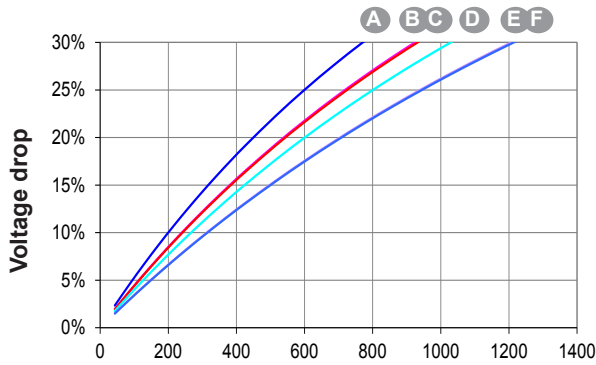
	A	B	C	D	E	F
Kcc Short-circuit ratio	0.35	0.34	0.31	0.39	0.32	0.36
Xd Direct-axis synchro. reactance unsaturated	347	338	372	310	361	328
Xq Quadrature-axis synchro. reactance unsaturated	177	172	189	158	184	167
T'do No-load transient time constant	1601	1705	1705	1773	1797	1832
X'd Direct-axis transient reactance saturated	21.6	19.8	21.8	17.5	20	17.9
T'd Short-circuit transient time constant	100	100	100	100	100	100
X''d Direct-axis subtransient reactance saturated	15.1	13.9	15.2	12.2	14	12.5
T''d Subtransient time constant	10	10	10	10	10	10
X''q Quadrature-axis subtransient reactance saturated	16.6	17.4	19.1	16.5	19.5	18
Xo Zero sequence reactance	0.9	0.82	0.9	0.72	0.83	0.74
X2 Negative sequence reactance saturated	15.91	15.66	17.21	14.41	16.8	15.31
Ta Armature time constant	15	15	15	15	15	15

Other class H / 400 V data

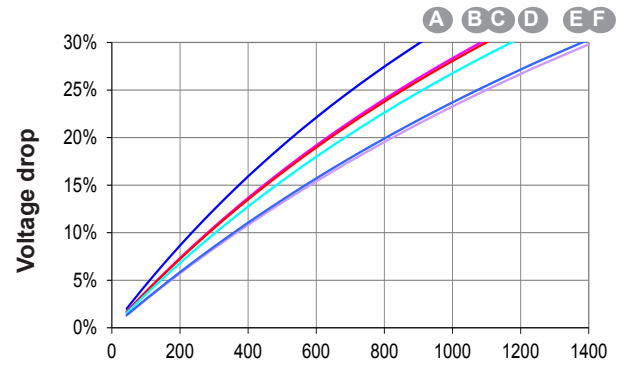
io (A) No-load excitation current SHUNT/AREP	0.97	0.87	0.87	0.97	0.85	0.93
ic (A) On-load excitation current SHUNT/AREP	4.24	3.72	4.06	3.79	3.89	3.87
uc (V) On-load excitation voltage SHUNT/AREP	44.2	38.7	42.2	39.4	40.3	40.1
ms Response time ($\Delta U = 20\%$ transient)	500	500	500	500	500	500
kVA Start ($\Delta U = 20\%$ cont. or $\Delta U = 30\%$ trans.) SHUNT*	612	743	742	947	970	1105
kVA Start ($\Delta U = 20\%$ cont. or $\Delta U = 30\%$ trans.) AREP*	738	891	894	1135	1162	1324
% Transient ΔU (on-load 4/4) SHUNT - P.F.: 0.8 _{LAG}	18.6	17.5	18.7	18.7	17.6	18.9
% Transient ΔU (on-load 4/4) AREP - P.F.: 0.8 _{LAG}	16.3	15.3	16.4	16.8	15.4	17
W No-load losses	4261	4376	4376	5192	4831	5487
W Heat dissipation	23451	22295	25923	24391	27055	27875

* P.F. = 0.6

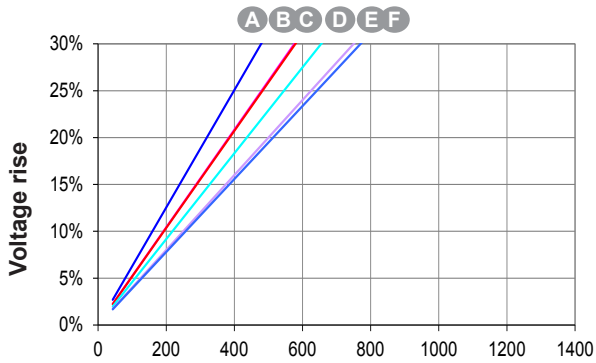
Transient voltage variation 400 V - 50 Hz



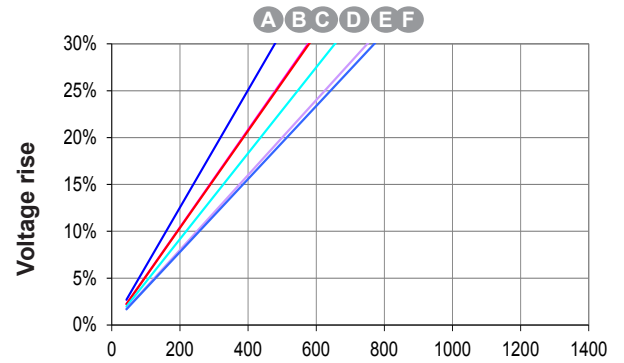
Phase loading (SHUNT) - kVA at P.F. = 0.8



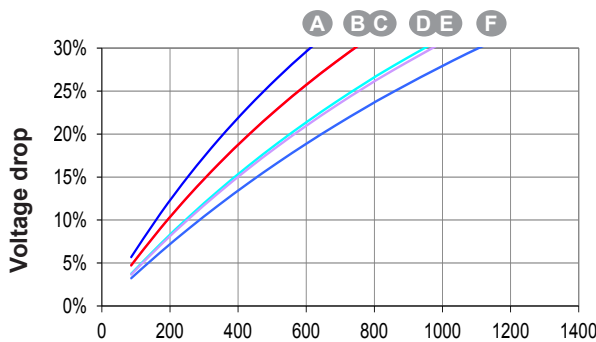
Phase loading (AREP) - kVA at P.F. = 0.8



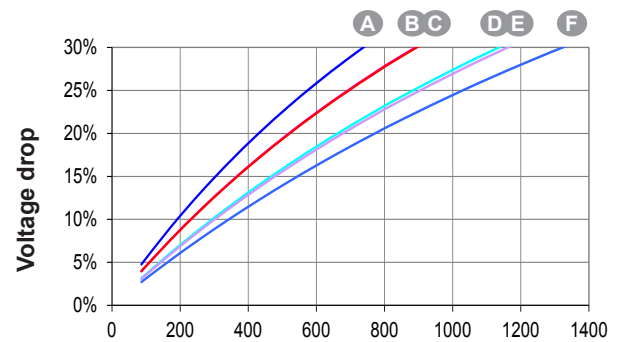
Load shedding (SHUNT) - kVA at P.F. = 0.8



Load shedding (AREP) - kVA at P.F. = 0.8



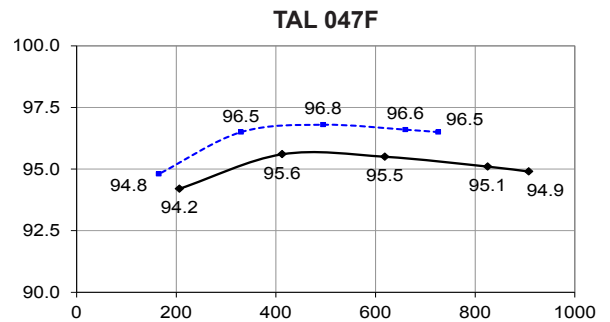
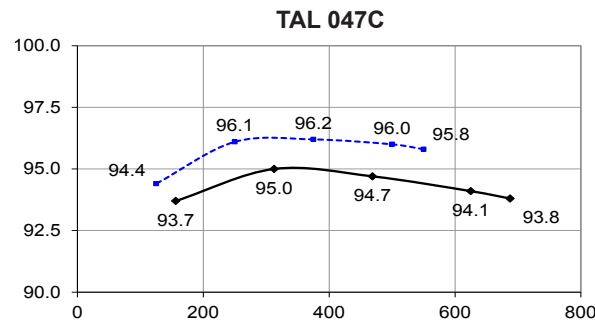
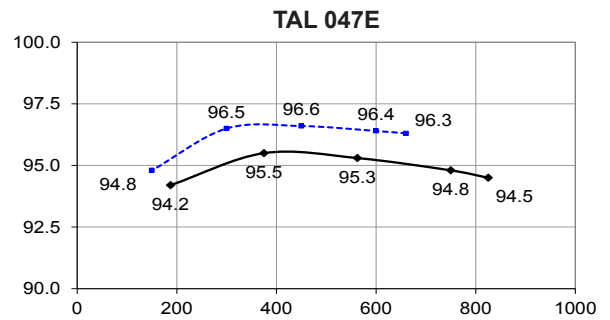
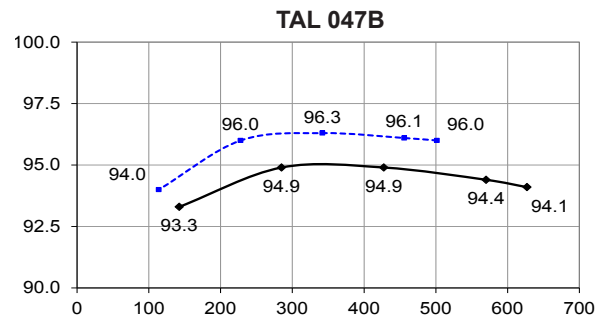
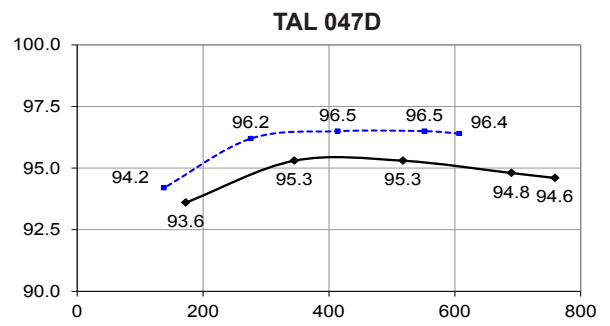
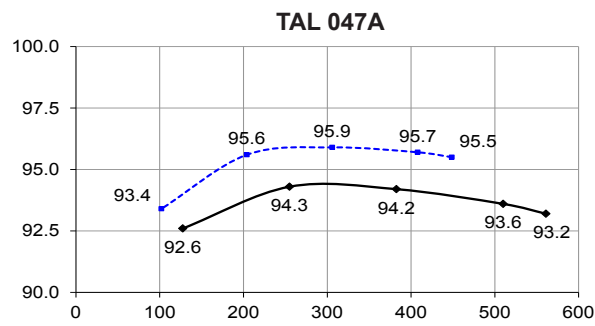
Motor starting (SHUNT)
Locked rotor kVA at P.F. = 0.6



Motor starting (AREP)
Locked rotor kVA at P.F. = 0.6

- 1) For a starting P.F. other than 0.6, the starting kVA must be multiplied by $K = \text{Sine P.F.} / 0.8$
- 2) For voltages other than 400V (Y), 230V (Δ) at 50 Hz, then kVA must be multiplied by $(400/U)^2$ or $(230/U)^2$.

Efficiencias 480 V - 60 Hz (— P.F.: 0.8) (..... P.F.: 1)



Reactances (%). Time constants (ms) - Class H / 480 V

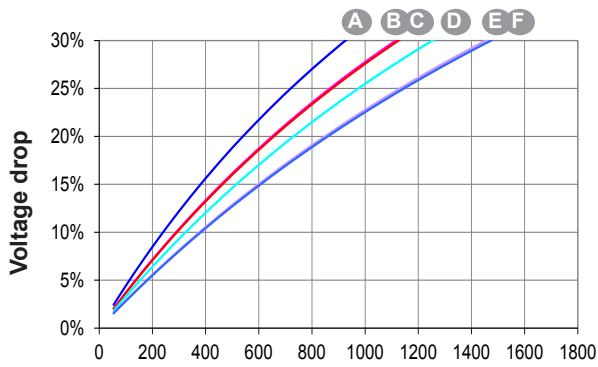
	A	B	C	D	E	F
Kcc Short-circuit ratio	0.34	0.32	0.3	0.37	0.3	0.35
Xd Direct-axis synchro. reactance unsaturated	359	353	387	324	376	342
Xq Quadrature-axis synchro. reactance unsaturated	183	180	197	165	191	174
T'do No-load transient time constant	1601	1705	1705	1773	1797	1832
X'd Direct-axis transient reactance saturated	22.4	20.7	22.7	18.3	20.9	18.6
T'd Short-circuit transient time constant	100	100	100	100	100	100
X''d Direct-axis subtransient reactance saturated	15.7	14.5	15.9	12.8	14.6	13
T''d Subtransient time constant	10	10	10	10	10	10
X''q Quadrature-axis subtransient reactance saturated	17.2	18.1	19.9	17.3	20.3	18.8
Xo Zero sequence reactance	0.93	0.86	0.94	0.76	0.87	0.77
X2 Negative sequence reactance saturated	16.5	16.35	17.92	15.07	17.5	15.95
Ta Armature time constant	15	15	15	15	15	15

Other class H / 480 V data

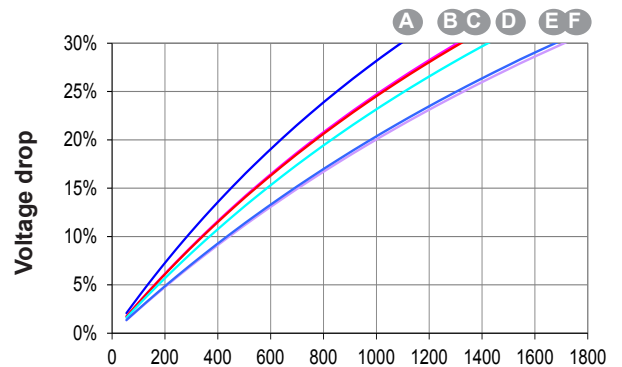
io (A) No-load excitation current SHUNT/AREP	0.97	0.87	0.87	0.97	0.85	0.93
ic (A) On-load excitation current SHUNT/AREP	4.31	3.81	4.15	3.88	3.97	3.94
uc (V) On-load excitation voltage SHUNT/AREP	45.1	39.8	43.3	40.5	41.3	41
ms Response time ($\Delta U = 20\%$ transient)	500	500	500	500	500	500
kVA Start ($\Delta U = 20\%$ cont. or $\Delta U = 30\%$ trans.) SHUNT*	738	890	889	1135	1162	1324
kVA Start ($\Delta U = 20\%$ cont. or $\Delta U = 30\%$ trans.) AREP*	883	1074	1071	1360	1391	1597
% Transient ΔU (on-load 4/4) SHUNT - P.F.: 0.8 _{LAG}	19.1	18	19.3	19.2	18.2	19.4
% Transient ΔU (on-load 4/4) AREP - P.F.: 0.8 _{LAG}	16.7	15.8	16.9	17.2	15.9	17.4
W No-load losses	6583	6766	6766	7888	7408	8312
W Heat dissipation	27879	27031	31057	29695	32579	33674

* P.F. = 0.6

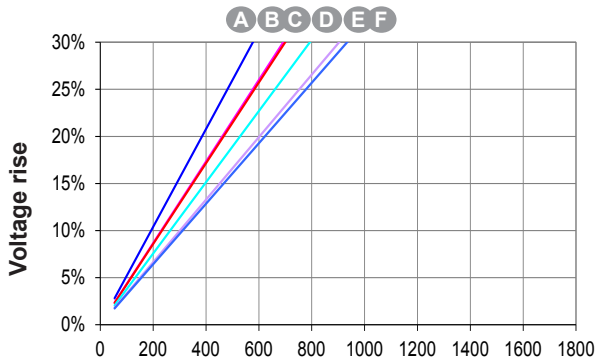
Transient voltage variation 480 V - 60 Hz



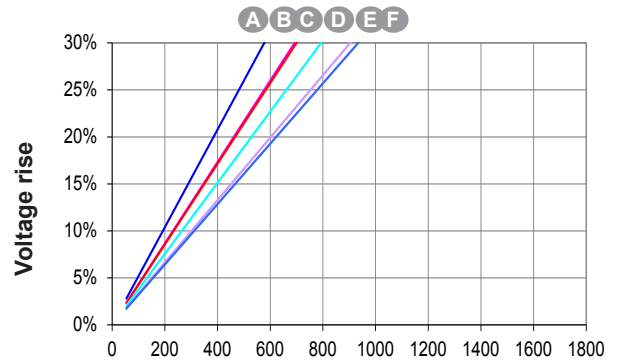
Phase loading (SHUNT) - kVA at P.F. = 0.8



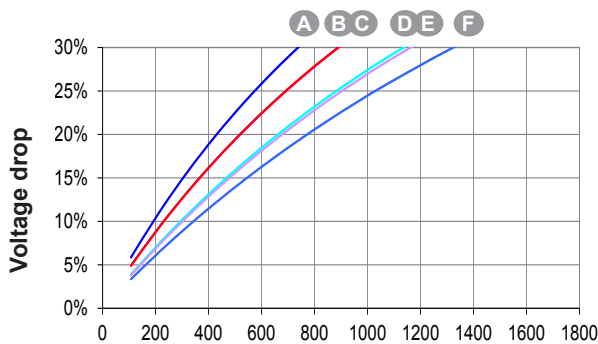
Phase loading (AREP) - kVA at P.F. = 0.8



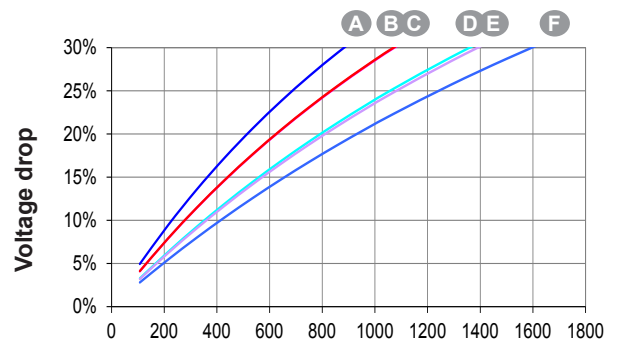
Load shedding (SHUNT) - kVA at P.F. = 0.8



Load shedding (AREP) - kVA at P.F. = 0.8



Motor starting (SHUNT)
Locked rotor kVA at P.F. = 0.6



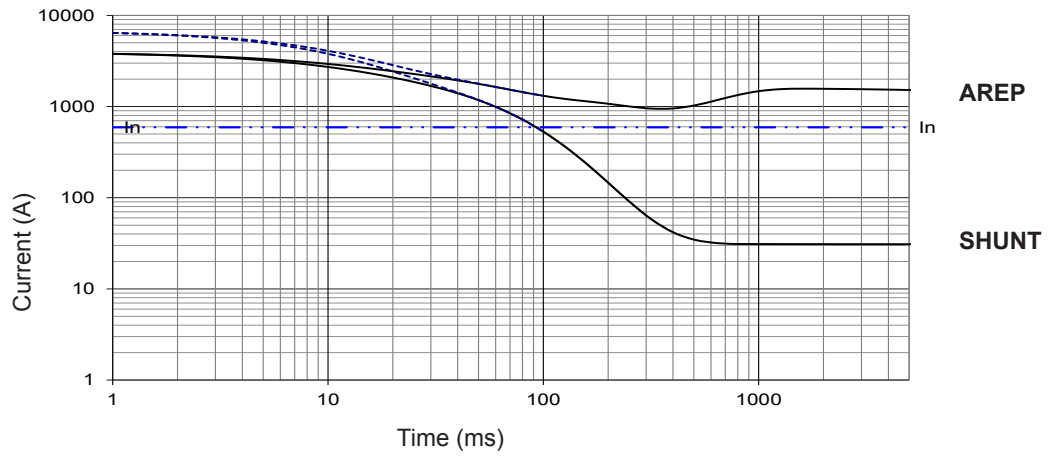
Motor starting (AREP)
Locked rotor kVA at P.F. = 0.6

- 1) For a starting P.F. other than 0.6, the starting kVA must be multiplied by $K = \text{Sine P.F.} / 0.8$
- 2) For voltages other than 480V (Y), 277V (Δ), 240V (YY) at 60 Hz, then kVA must be multiplied by $(480/U)^2$ or $(277/U)^2$ or $(240/U)^2$.

3-phase short-circuit curves at no load and rated speed (star connection Y)

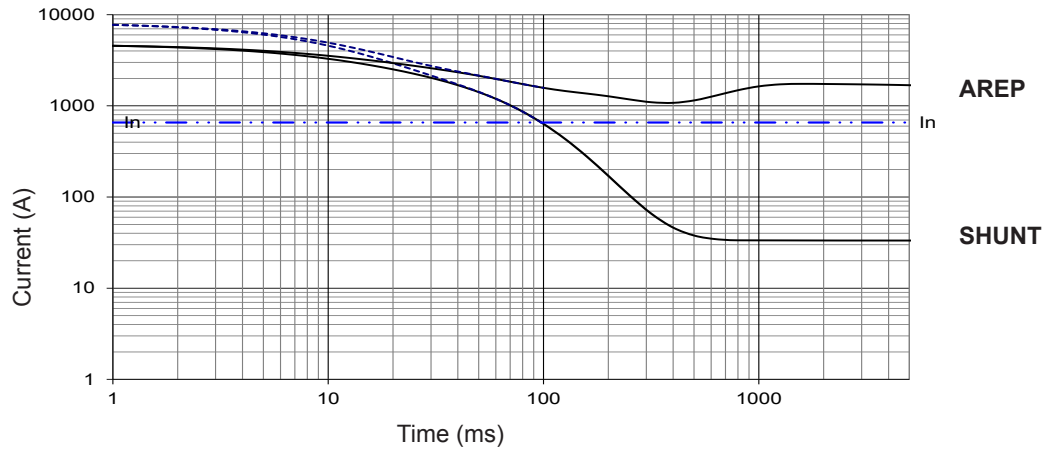
TAL 047 A

Symmetrical —
Asymmetrical - - -



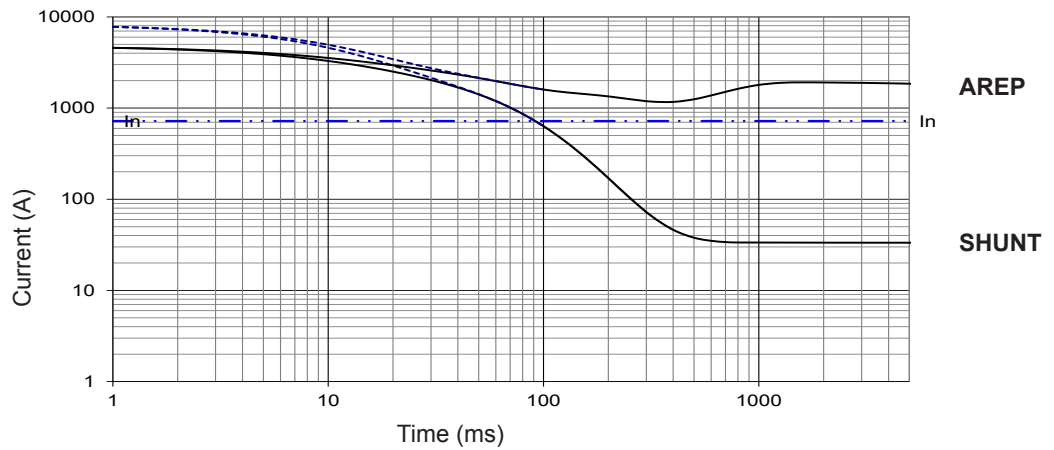
TAL 047 B

Symmetrical —
Asymmetrical - - -



TAL 047 C

Symmetrical —
Asymmetrical - - -



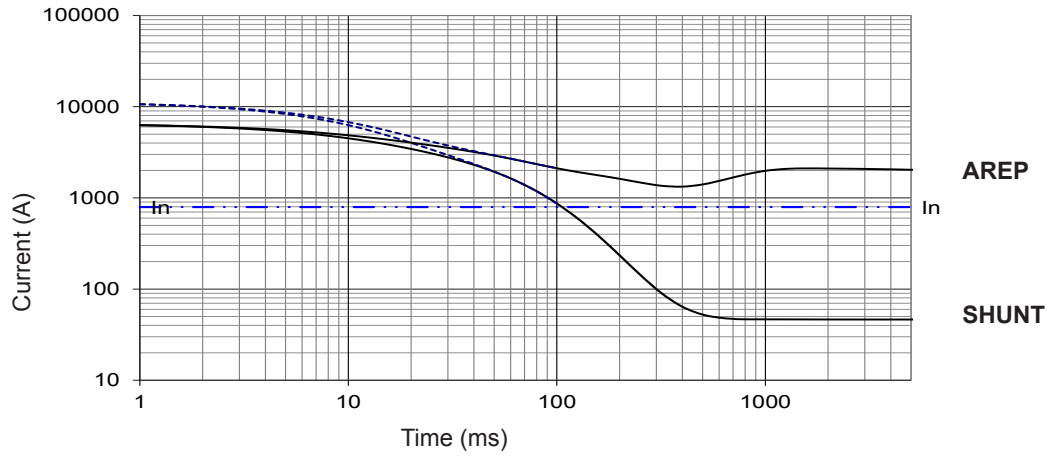
Influence due to connection

For (Δ) connection, use the following multiplication factor:
- Current value x 1.732.

3-phase short-circuit curves at no load and rated speed (star connection Y)

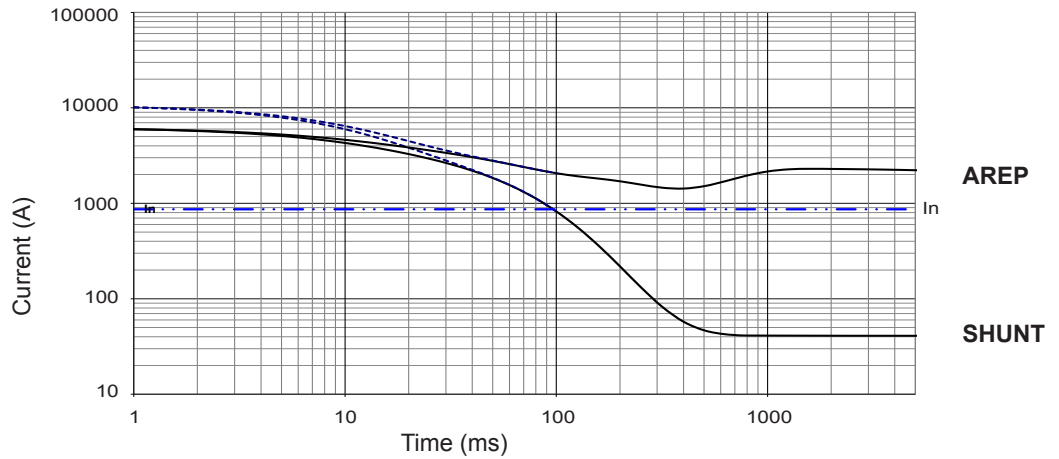
TAL 047 D

Symmetrical —
Asymmetrical - - -



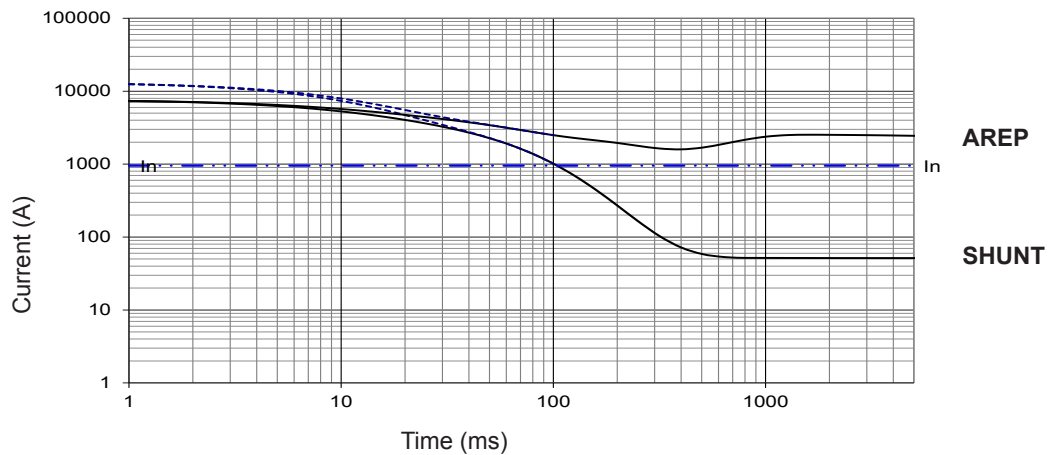
TAL 047 E

Symmetrical —
Asymmetrical - - -



TAL 047 F

Symmetrical —
Asymmetrical - - -

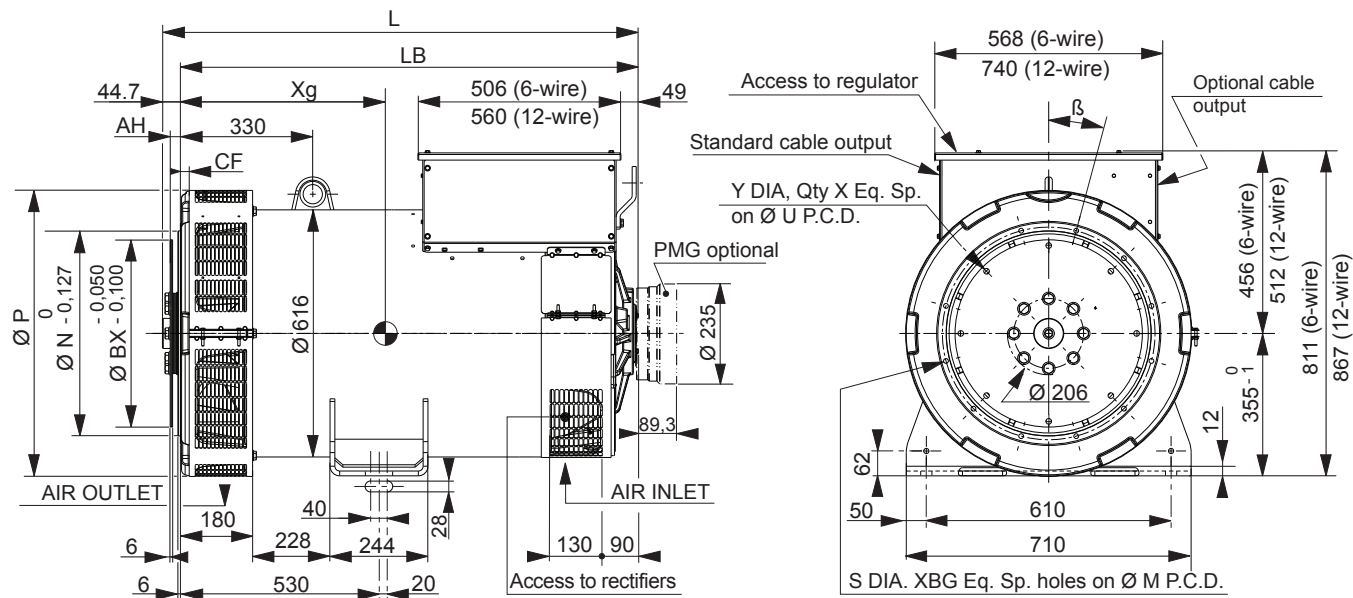


Influence due to short-circuit

Curves are based on a three-phase short-circuit. For other types of short-circuit, use the following multiplication factors.

	3 - phase	2 - phase L / L	1 - phase L / N
Instantaneous (max.)	1	0.87	1.3
Continuous	1	1.5	2.2
Maximum duration		1.5	

Single bearing general arrangement



Dimensions (mm) and weight

Type	L without PMG	LB	Xg	Weight (kg)
TAL 047 A	1041	996	437	976
TAL 047 B	1101	1056	471	1113
TAL 047 C	1101	1056	471	1113
TAL 047 D	1201	1156	511	1240
TAL 047 E	1201	1176	520	1289
TAL 047 F	1221	1176	545	1372

Coupling

Flex plate	14	18
Flange S.A.E 1	X	
Flange S.A.E 1/2	X	
Flange S.A.E 0	X	X

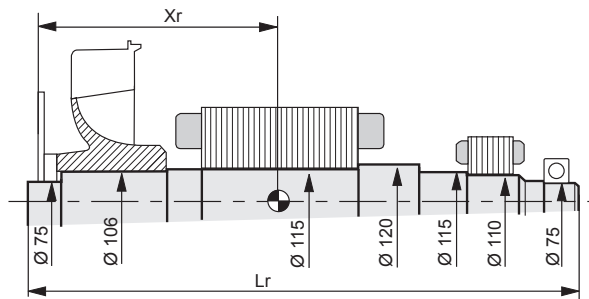
Flange (mm)

S.A.E.	P	N	M	XBG	S	β°	CF
1	713	511.175	530.225	12	12	15°	15
1/2	713	584.2	619.125	12	14	15°	22
0	713	647.7	679.45	16	14	11° 15'	42

Flex plate (mm)

S.A.E.	BX	U	X	Y	AH
11 1/2	352.42	333.38	8	11	39.6
14	466.72	438.15	8	14	25.4
18	571.5	542.92	6	17	15.7

Torsional data



Centre of gravity: Xr (mm), Rotor length: Lr (mm), Weight: M (kg), Moment of inertia: J (kgm²): ($4J = MD^2$)

Type	Flex plate S.A.E. 14				Flex plate S.A.E. 18			
	Xr	Lr	M	J	Xr	Lr	M	J
TAL 047 A	418.3	1020	374.9	5.92	408.5	1020	376	6.18
TAL 047 B	456	1080	426.6	6.77	446	1080	427.7	7.03
TAL 047 C	456	1080	426.6	6.77	446	1080	427.7	7.03
TAL 047 D	496	1180	477	7.5	486	1180	478.1	7.76
TAL 047 E	507	1180	493.8	7.8	497	1180	494.9	8.06
TAL 047 F	528	1200	525.2	8.32	518	1200	526.3	8.58

NOTE : Dimensions are for information only and may be subject to modifications. The torsional analysis of the transmission is imperative. All values are available upon request.

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Nidec
All for dreams

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Capital social : 65 800 512 €, RCS Angoulême 338 567 258.

DSE7310/20

AUTO START & AUTO MAINS FAILURE CONTROL MODULES

FEATURES



The DSE7310 is an Auto Start Control Module and the DSE7320 is an Auto Mains (Utility) Failure Control Module suitable for a wide variety of single, diesel or gas, gen-set applications.

Monitoring an extensive number of engine parameters, the modules will display warnings, shutdown and engine status information on the back-lit LCD screen, illuminated LEDs, remote PC and via SMS text alerts (with external modem).

The DSE7320 will also monitor the mains (utility) supply. The modules include USB, RS232 and RS485 ports as well as dedicated DSENet® terminals for system expansion.

Both modules are compatible with electronic (CAN) and non-electronic (magnetic pick-up/alternator sensing) engines and offer an extensive number of flexible inputs, outputs and extensive engine protections so the system can be easily adapted to meet the most demanding industry requirements.

The extensive list of features includes enhanced event and performance monitoring, remote communications, PLC functionality and dual mutual standby (DSE7310 only) to reduce engine wear.

The modules can be easily configured using the DSE Configuration Suite PC software. Selected front panel editing is also available.

ENVIRONMENTAL TESTING STANDARDS

ELECTRO-MAGNETIC COMPATIBILITY

BS EN 61000-6-2
EMC Generic Immunity Standard for the Industrial Environment
BS EN 61000-6-4
EMC Generic Emission Standard for the Industrial Environment

ELECTRICAL SAFETY

BS EN 60950
Safety of Information Technology Equipment, including Electrical Business Equipment

TEMPERATURE

BS EN 60068-2-1
Ab/Ae Cold Test -30 °C
BS EN 60068-2-2
Bb/Be Dry Heat +70 °C

VIBRATION

BS EN 60068-2-6
Ten sweeps in each of three major axes
5 Hz to 8 Hz @ +/-7.5 mm,
8 Hz to 500 Hz @ 2 gn

HUMIDITY

BS EN 60068-2-30
Db Damp Heat Cyclic 20/55 °C @ 95% RH 48 Hours
BS EN 60068-2-78
Cab Damp Heat Static 40 °C @ 93% RH 48 Hours

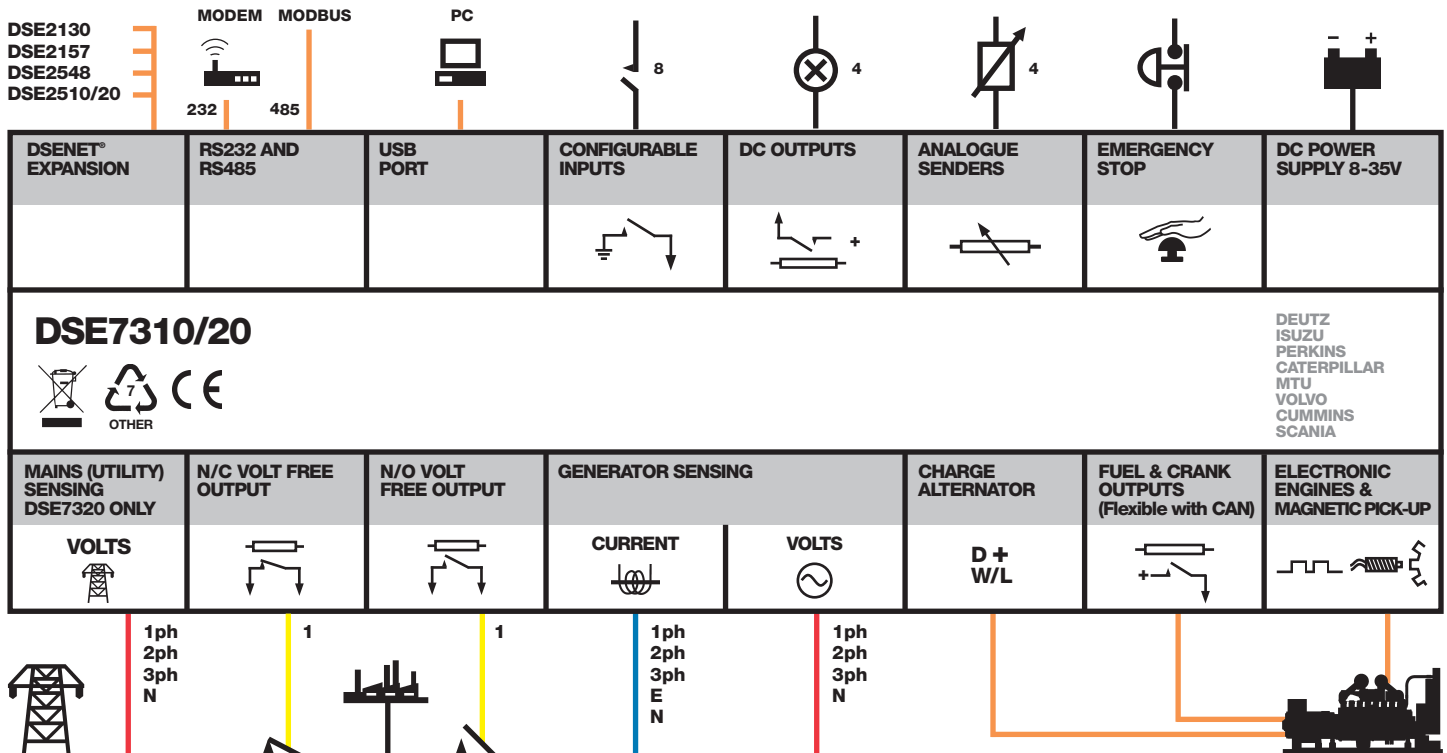
SHOCK

BS EN 60068-2-27
Three shocks in each of three major axes
15 gn in 11 mS

DEGREES OF PROTECTION PROVIDED BY ENCLOSURES

BS EN 60529
IP65 - Front of module when installed into the control panel with the supplied sealing gasket.

COMPREHENSIVE FEATURE LIST TO SUIT A WIDE VARIETY OF GEN-SET APPLICATIONS



DSE7310/20

AUTO START & AUTO MAINS FAILURE CONTROL MODULES

FEATURES



DSE7310



KEY FEATURES

- 4-Line back-lit LCD text display
- Five key menu navigation
- Front panel editing with PIN protection
- Customisable status screens
- Power save mode
- Support for up to three remote display units
- 9 configurable inputs
- 8 configurable outputs
- Flexible sender inputs
- Configurable timers and alarms
- 3 configurable maintenance alarms
- Multiple date and time scheduler
- Configurable event log (250)
- Tier 4 CAN engine support
- Integral PLC editor
- Easy access diagnostic page
- CAN and Magnetic Pick-up/Alt. sensing
- Fuel usage monitor and low fuel alarms
- Charge alternator failure alarm
- Manual speed control (on compatible CAN engines)
- Manual fuel pump control
- Engine exerciser
- "Protections disabled" feature
- kW & kV Ar protection

DSE7320



- Reverse power (kW & kV Ar) protection
- LED and LCD alarm indication
- Power monitoring (kW h, kV Ar, kV A h, kV Ar h)
- Load switching (load shedding and dummy load outputs)
- Automatic load transfer (DSE7320)
- Unbalanced load protection
- Independent Earth Fault trip
- True dual mutual standby with load balancing timer (DSE7310 only)
- USB connectivity
- Backed up real time clock
- Fully configurable via DSE Configuration Suite PC software
- Configurable display languages
- Remote SCADA monitoring via DSE Configuration Suite PC software
- User selectable RS232 and RS485 communications
- Configurable Gencomm pages
- Advanced SMS messaging (additional external modem required)
- Start & stop capability via SMS messaging
- Additional display screens to help with modem diagnostics
- Idle control for starting & stopping.
- DSENet® expansion compatible

KEY BENEFITS

- 132 x 64 pixel ratio display for clarity
- Real-time clock provides accurate event logging
- Multiple date and time scheduler
- Set maintenance periods can be configured to maintain optimum engine performance
- Ethernet communications (via DSE860/865 modules), provides advanced remote monitoring at low cost
- Modules can be integrated into building management systems (BMS)
- Increased input and output expansion capability via DSENet®
- Licence-free PC software
- IP65 rating (with supplied gasket) offers increased resistance to water ingress
- PLC editor allows user configurable functions to meet specific application requirements

SPECIFICATION

DC SUPPLY

CONTINUOUS VOLTAGE RATING
8 V to 35 V Continuous

CRANKING DROPOUTS

Able to survive 0 V for 50 mS, providing supply was at least 10 V before dropout and supply recovers to 5 V. This is achieved without the need for internal batteries. LEDs and backlight will not be maintained during cranking.

MAXIMUM OPERATING CURRENT

340 mA at 12 V, 160 mA at 24 V

MAXIMUM STANDBY CURRENT

160 mA at 12 V, 80 mA at 24 V

CHARGE FAIL/EXCITATION RANGE

0 V to 35 V

MAINS (UTILITY) DSE7320 ONLY

VOLTAGE RANGE
15 V - 333 V AC (L-N)

FREQUENCY RANGE

3.5 Hz to 75 Hz

OUTPUTS

OUTPUT A (FUEL)

15 A DC at supply voltage

OUTPUT B (START)

15 A DC at supply voltage

OUTPUTS C & D

8 A 250 V (Volt free)

AUXILIARY OUTPUTS E,F,G,H

2 A DC at supply voltage

GENERATOR

VOLTAGE RANGE

15 V - 333 V AC (L-N)

FREQUENCY RANGE

3.5 Hz to 75 Hz

MAGNETIC PICK UP

VOLTAGE RANGE

+/- 0.5 V to 70 V

FREQUENCY RANGE

10,000 Hz (max)

DIMENSIONS

OVERALL

240 mm x 181 mm x 42 mm
9.4" x 7.1" x 1.6"

PANEL CUT-OUT

220 mm x 160 mm
8.7" x 6.3"

MAXIMUM PANEL THICKNESS

8 mm
0.3"

RELATED MATERIALS

TITLE

DSE7310 Installation Instructions
DSE7320 Installation Instructions
DSE7200/7300 Quick Start Guide
DSE7200/7300 Operator Manual
DSE7200/7300 Configuration Suite PC Manual

PART NO'S

053-028
053-029
057-101
057-074
057-077

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