

# TENAX V SERIES

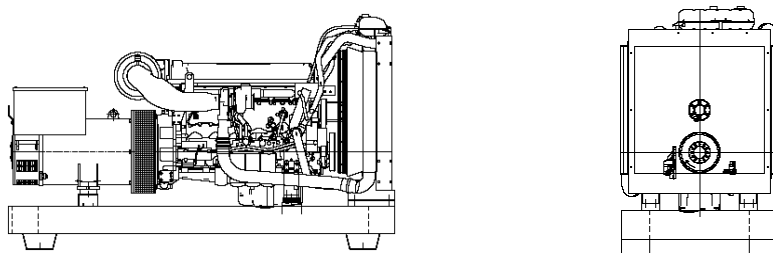
**DIESEL GENERATOR**  
**GRUPE ELECTROGENE DIESEL**  
**GRUPO ELECTROGENO DIESEL**  
**GRUPPO ELETTOGENO DIESEL**

MODEL  
 MODELE  
 MODELO  
 MODELLO

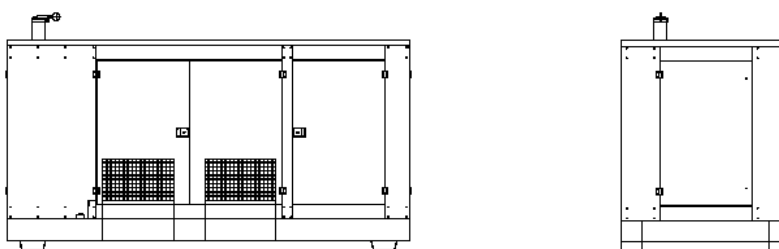
## VO 352 TV\*

**POWERED BY**

### OPEN VERSION



### SOUNDPROOF VERSION



GENERATING SET PERFORMANCE PERFORMANCES DU GROUPE PRESTACIONES DEL GRUPO PRESTAZIONI DEL GRUPPO		50 Hz		60 Hz	
Voltage Voltage Voltage Tensione		V	400 / 230	V	220 / 127
Continuous Power Puissance service continue Potencia servicio continuo Potenza servizio continuo	PRP	kVA	315	kVA	345
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	LTP	kVA	341	kVA	383
Continuous Power Puissance service continue Potencia servicio continuo Potenza servizio continuo	PRP	kWe	252	kWe	276
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	LTP	kWe	273	kWe	306
Power factor Facteur de puissance Factor de potencia Fattore di potenza	cos φ		0,8		0,8
Fuel consumption Consommation combustible Consumo de combustible Consumo combustibile	70 %	l/h	45,0	l/h	50,2

ENGINE MOTEUR MOTOR MOTORE	VOLVO PENTA		TAD 1341 GE		
PERFORMANCE PERFORMANCES PRESTACIONES PRESTAZIONI	1500 rpm		1800 rpm		
Continuous Power Puissance service continue Potencia servicio continuo Potenza servizio continuo	PRP	kWm	271	kWm	287
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	LTP	kWm	298	kWm	317
Specific fuel consumption Consumption spécifique combustible Consumo específico de combustible Consumo specifico combustibile		g/kWh	25 % 230 50 % 202 75 % 195 100 % 191	g/kWh	25 % 237 50 % 211 75 % 202 100 % 200
Diesel 4 Stroke – Injection type Diesel 4 temps – Type injection Diesel 4 tiempos – Tipo de inyección Diesel a 4 tempi – Tipo di iniezione					Direct Directe Directa Diretta
Aspiration type Type d'aspiration Tipo de aspiracion Tipo d'aspirazione					Turbocharged Suralimentée Sobrealimentado Sovralimentata
Cooling system Refroidissement Sistema de refrigeración Raffreddamento					Water Eau Agua Acqua
Speed governor Régulateur de tours Regulador Regolatore di giri					Electronic Électronique Eléctronico Elettronico
Cylinders, numbers and arrangement Nombre et disposition des cylindres Cilindros, numero y disposición Numero e disposizione dei cilindri					6 L
Total displacement Cylindrée totale Cilindrata total Cilindrata totale				cm <sup>3</sup>	12.780
Bore x stroke Alésage x course Diámetro x carrera Alesaggio x corsa				mm	131 x 158
Compression ratio Rapport de compression Relación de compresión Rapporto di compressione					18.1:1
Engine electric system voltage Voltage système électrique moteur Voltaje sistema eléctrico motor Voltaggio sistema elettrico motore					24 V
Derating for temperature Déclassement pour temperature Declasamiento para temperatura Declassamento per temperatura					No derating
Derating for altitude Déclassement pour altitude Declasamiento para altitud Declassamento per altitudine		0+3600 mt	0	0+3000 mt	0
		>3600 mt	4,5% / 500 mt	>3000 mt	8% / 500 mt
Derating for relative humidity Déclassement pour humidité relative Declasamiento para humedad relativa Declassamento per umidità relativa					No derating

ALTERNATOR ALTERNATEUR ALTERNADOR ALTERNATORE		MECCALTE	
PERFORMANCE PERFORMANCES PRESTACIONES PRESTAZIONI		1500 rpm	1800 rpm
Model Modèle Modelo Modello		ECO38-3LN/4	ECO38-3LN/4
Continuous Power Puissance service continue Potencia servicio continuo Potenza servizio continuo	40 °C	kVA <b>350</b> kWe 280	KVA <b>420</b> kWe 336
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	40 °C	KVA <b>360</b> kWe 288	KVA <b>432</b> kWe 346
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	27 °C	KVA <b>370</b> kWe 296	KVA <b>444</b> kWe 355
Efficiency Rendement Eficienza Efficienza		2/4 92,6 % 3/4 93,7 % 4/4 93,5 %	2/4 93,3 % 3/4 94,5 % 4/4 94,3 %
Standard winding connections Liaison des bobinages Tipo de conexión Collegamento avvolgimenti		Y	YY
Exciter Eccitatrice Excitador Eccitatrice	<b>brushless</b> rotating exciter design with solid state pivotante <b>sans brosses</b> avec pont de diodes pivotants puente de diodos <b>sin escobillas</b> rotantes rotante <b>senza spazzole</b> con ponte di diodi rotanti		
Poles Poles Polos Poli		4	
Phases Phases Fases Fasi		3 + N	
Wires Fils Hilos Morsetti		12	
Voltage regulation Regulation Voltage Regulación voltaje Regolazione tensione		± 1%	
Insulation class Classe d' isolation Classe de aislamiento Classe di isolamento		H	
Enclosure Degré de protection mécanique Grado de protección mecánica Grado di protezione meccanica		IP 21	
Air Volume Volume d'air Volumen de aire Volume d'aria		50 Hz	32 m <sup>3</sup> /min
		60 Hz	39 m <sup>3</sup> /min
Standard AVR model Modèle AVR standard Modelo AVR standard Modello AVR standard		<b>DSR</b>	
Derating for temperature Déclassement pour temperature Declasamiento para temperatura Declasseamento per temperatura		0 ÷ 40°C	0
		> 40 °C	3 % / 5°C
Derating for altitude Déclassement pour altitude Declasamiento para altitud Declasseamento per altitudine		0 ÷ 1000 m	0
		1000 ÷ 2500 m	3% / 500 m
		2500 ÷ 3000 m	4% / 500 m

**LOGISTIC INFORMATION**  
**INFORMATIONS LOGISTIQUES**  
**INFORMATION LOGISTICA**  
**INFORMAZIONI LOGISTICHE**

	Integrated fuel tank capacity Capacité réservoir intégré Capacidad Tanque integrado Capacità Serbatoio integrato		Weight Poids Peso Peso	Dimensions Cotes d'encombrement Medidas externas Dimensioni d'ingombro			
	( L )			(kg)	( cm )		
	STD	EXTRA 1			L	W	H
OPEN SKID VERSION VERSION SUR SKID VERSION ABIERTA VERSIONE APERTA	260	ON REQUEST	2440	293	111	177	
SOUND PROOF VERSION VERSION INSONORISEE VERSION INSONORISADA VERSIONE INSONORIZZATA	335	ON REQUEST	3500	383	163	226	


**GENSET STANDARD EQUIPMENT**  
**EQUIPEMENT STANDARD GROUPE ELECTROGENE**  
**EQUIPAMIENTO STANDARD GRUPO ELECTROGENO**  
**EQUIPAGGIAMENTO STANDARD GRUPPO ELETTOGENO**

GB	F	E	I
<ul style="list-style-type: none"> <li>Steel base frame</li> <li>Vibration dampers</li> <li>Integrated fuel tank</li> <li>Silencer <b>industrial</b> type for open version</li> <li>Battery</li> <li>Manual autostart control panel With <b>DSE7310</b></li> <li>Engine with original tropical radiator</li> <li>Emergency stop button</li> <li>Sound proof canopy of galvanized steel with residential silencer</li> </ul>	<ul style="list-style-type: none"> <li>Châssis acier</li> <li>Amortisseurs de vibrations</li> <li>Réservoir intégré</li> <li>Silencieux <b>industriel</b> pour la version ouverte</li> <li>Batterie</li> <li>Coffret de contrôle manuel autostart avec <b>DSE7310</b></li> <li>Moteur avec radiateur tropical</li> <li>Bouton arrêt d'urgence</li> <li>Capote d'insonorisation d'acier galvanisé avec silencieux <b>résidentiel</b></li> </ul>	<ul style="list-style-type: none"> <li>Telar de acero</li> <li>Apagadores de vibracion</li> <li>Tanque combustible</li> <li>Silenciador industrial para la versión abierta</li> <li>Bateria</li> <li>Cuadro electrico manual autostart con <b>DSE7310</b></li> <li>Motor con radiador original tropical</li> <li>Botón parada de emergencia</li> <li>Cabina de insonorización de acero cincado con silenciador <b>residencial</b></li> </ul>	<ul style="list-style-type: none"> <li>Basamento in acciaio</li> <li>Antivibranti</li> <li>Serbatoio integrato</li> <li>Silenziatore <b>industriale</b> per versione aperta</li> <li>Batteria</li> <li>Quadro elettrico manuale autostart con <b>DSE7310</b></li> <li>Motore con radiatore originale tropicalizzato</li> <li>Pulsante arresto di emergenza</li> <li>Cabina di insonorizzazione di acciaio zincato con marmitta <b>residenziale</b></li> </ul>

**MANUAL AUTOSTART CONTROL PANEL**  
**COFFRET ELECTRIQUE MANUEL AUTOSTART**  
**CUADRO ELECTRICO MANUAL AUTOSTART**  
**QUADRO ELETTRICO MANUALE AUTOSTART**

**ACP 7310 AUS**  
**630 A (400 V - 3 ph - 50Hz - 1500 rpm)**  
**1000 A (220 V - 3 ph - 60Hz - 1800 rpm)**


<b>STANDARD EQUIPMENT:</b> 4 poles circuit breaker Electronic control board <b>DSE 7310</b> Control panel box key Emergency Stop button	<b>EQUIPEMENT STANDARD:</b> Disjoncteur de protection 4 pôles Fiche électronique <b>DSE 7310</b> Clé pour serrure du coffret Interrupteur d'arrêt d'urgence	<b>EQUIPAMIENTO STANDARD:</b> Interruptor magnetotermico 4 polos Carta electronica <b>DSE 7310</b> Llave cuadro Botón de parada de emergencia	<b>EQUIPAGGIAMENTO STANDARD:</b> Interruttore magnetotermico 4 poli Scheda elettronica <b>DSE 7310</b> Chiave quadro Pulsante di arresto di emergenza
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	<b>DSE 7310</b>	<b>CONTROL BOARD</b> <b>CARTE ELECTRONIQUE DE CONTROL</b> <b>CARTA ELECTRONICA DE CONTROL</b> <b>SCHEDA ELETTRONICA DI CONTROLLO</b>
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PROTECTIONS	PROTECTIONS	PROTECCIONES	PROTEZIONI
Low oil pressure High engine temperature Low fuel level Fail to start Fail to stop Emergency stop Over/under generator frequency Over/under generator voltage Over/under speed Fuel level Belt breakage Over current Over/under battery voltage	Basse pression huile moteur Haute température moteur Basse niveau combustible Non démarrage Non arrêt Arrêt d'urgence Sur/sous générateur fréquence Sur/sous générateur voltage Sur/sourvitesse Niveau de combustible Rupture courroie Surcourant Sur/sus la tension de batterie	Baja presión aceite Elevada temperatura motor Baja nivel carburante Falta de arranque Falta de parada Parada de emergencia Sobre/bajo generatore frecuencia Sobre/bajo generatore voltaje Sobre/bajo velocidad nivel de combustible Ruptura correa Corriente maxima Sobre/bajo voltaje de la batería	Bassa pressione olio Alta temperatura motore Basso livello di carburante Mancato avviamento Mancato arresto Stop d'emergenza Sovra/sotto frequenza generatore Sovra/sotto voltaggio generatore Sovra/sotto velocità livello del carburante Rottura cinghia Sovracorrente Sovra/sotto tensione della batteria
DIGITAL METERS	VOYANT NUMERIQUE POUR	VISOR DIGITAL PARA	MISURATORE DIGITALE PER
Generator volts ( 3 phases ) Generator amperes ( 3 phases ) Generator frequency KW-meter kVA-meter Cos φ- meter Rpm meter Gen set hours counter Battery Volts	Voltmètre générateur ( 3 phases ) Ampèremètre générateur (3 phases) Fréquencemètre générateur KW-mètre kVA- mètre Cos φ- mètre Tm mètre Totalisateur d'heures de marche Voltmètre batterie	Voltmetro ( 3 fases ) Amperimetro ( 3 fases ) Frecuencimetro KW- metro kVA- metro Cos φ-metro Revoluciones por minuto metro Medida horas de marcha Voltmetro batería	Voltmetro tensione generatore (3 fasi) Amperometro generatore ( 3 fasi ) Frequenzimetro generatore KW- metro kVA- metro Cos φ-metro Gm metro Contaore di funzionamento gruppo Voltmetro batteria

**AUTOMATIC CONTROL PANEL  
COFFRET ELECTRIQUE AUTOMATIQUE  
CUADRO ELECTRICO AUTOMATICO  
QUADRO ELETTRICO AUTOMATICO**

1) **ACP 7320 ATS**  **COMPLETE CONTROL PANEL FREE STANDING TYPE**  
Equipment: control board, circuit breaker, battery charger, transfer switch, box key.  
**COFFRET ELECTRIQUE COMPLET TYPE ARMOIRE SEPRE DU GROUPE**  
Equipement : carte électronique de contrôle, disjoncteur de protection, chargeur de batterie, inverseur de source, clé coffret.  
**CUADRO ELECTRICO COMPLETO EN ARMARIO SEPARADO DEL GRUPO**  
Equipamiento: carta electronica de controllo, interruptor magnetotermico, cargador de bateria, transferencial, llave quadro.  
**QUADRO ELETTRICO COMPLETO SEPARATO DAL GRUPPO**  
Equipaggiamento: scheda elettronica di controllo, interruttore magnetotermico, carica batteria, telecommutazione e chiave quadro.

2) **ACP 7320 AMF**  **AMF CONTROL PANEL FITTED ON THE GEN-SET WITHOUT TRANSFER SWITCH**  
Equipment: control board, circuit breaker, battery charger, box key.  
**COFFRET ELECTRIQUE MONTE SUR LE GROUPE SANS INVERSEUR DE SOURCE**  
Equipement : carte électronique de contrôle, disjoncteur de protection, chargeur de batterie, clé coffret.  
**CUADRO ELECTRICO MONTADO SOBRE EL GRUPO SIN TRANSFERENCIAL**  
Equipamiento: carta electronica de controllo, interruptor magnetotermico, cargador de bateria, llave quadro.  
**QUADRO ELETTRICO MONTATO SUL GRUPPO ELETTROGENO SENZA TELECOMMUTAZIONE**  
Equipaggiamento: scheda elettronica di controllo, interruttore magnetotermico, carica batteria, chiave quadro.

3) **ACP 7320 STS**  **CONTROL PANEL FITTED ON THE GEN-SET WITH TRANSFER SWITCH SUPPLIED IN A SEPARATED BOX**  
Equipment: control board, circuit breaker, battery charger, box key, separate transfer switch.  
**COFFRET ELECTRIQUE MONTE SUR LE GROUPE + INVERSEUR DE SOURCE FOURNI DANS UN COFFRET SEPRE**  
Equipement : carte électronique de contrôle, disjoncteur de protection, chargeur de batterie, inverseur de source séparé, clé coffret.  
**CUADRO ELECTRICO MONTADO SOBRE EL GRUPO CON TRANSFERENCIAL SEPARADO**  
Equipamiento: carta electronica de controllo, interruptor magnetotermico, cargador de bateria, llave quadro, transferencial separado.  
**QUADRO ELETTRICO MONTATO SUL GRUPPO ELETTROGENO CON TELECOMMUTAZIONE SEPARATA**  
Equipaggiamento: scheda elettronica di controllo, interruttore magnetotermico, carica batteria, chiave quadro, telecommutazione in armadio separato.

 **DSE 7320**  
**CONTROL BOARD  
CARTE ELECTRONIQUE DE CONTROL  
CARTA ELECTRONICA DE CONTROL  
SCHEDA ELETTRONICA DI CONTROLLO**

GB	F	E	I
The DSE7320 is an Automatic Mains Failure Control Module designed to automatically start and stop diesel generating sets that include electronic and non electronic engines. The module also provides excellent genset monitoring and protection features.	La DSE7320 est une carte de contrôle projetée pour démarrer et arrêter automatiquement groupes électrogènes diesels avec moteurs électroniques et non électroniques. La carte représente un système excellent de contrôle et de protection du groupe électrogène.	La DSE7320 es una carta de control para arranquar y parar automáticamente grupos electrógenos diesel con motores electrónicos y no electrónicos. La carta constituye un excelente sistema de control y protección del grupo electrógeno.	La DSE7320 è una scheda di controllo progettata per avviare e arrestare automaticamente gruppi elettrogeni diesel con motori elettronici e non elettronici. La scheda costituisce un eccellente sistema di controllo e di protezione del gruppo elettrogeno.
<b>FEATURES</b>	<b>EQUIPEMENT</b>	<b>EQUIPMENT</b>	<b>EQUIPAGGIAMENTO</b>
Stop/reste – Auto – Manual – Start LCD display scroll Event log view Acoustic alarm	Fiche électronique de contrôle DSE7320 Disjoncteur de protection Chargeur de batterie Bouton poussoir arrête d'urgence	Ficha electrónica de control DSE7320 Interruptor magnetotermico Cargador de batería Boton de parada de emergencia	Scheda elettronica di controllo DSE7320 Interruttore magnetotermico Carica batteria Pulsante stop emergenza
<b>DIGITAL MEASURING</b>	<b>MESURES NUMERIQUES</b>	<b>MEDIDAS DIGITALES</b>	<b>MISURAZIONI DIGITALI</b>
Generator volts (3 phases) Generator amperes (3 phases) Generator frequency KW-meter kVA-meter Cos φ- meter Rpm meter Water temperature (optional) Oil pressure (optional) Gen set hours counter Mains volts Battery volts Mains frequency Charging voltage Start-counter Fuel level %	Voltmètre générateur (3 phases) Ampèremètre générateur (3 phases) Fréquencemètre générateur KW- mètre kVA- mètre Cos φ- mètre Tm mètre Température eau (facultatif) Pression huile (facultatif) Totalisateur d'heures de marche Voltmètre secteur Voltmètre batterie Fréquence réseau Tension de charge Compteur démarrages Niveau combustible %	Voltmetro (3 fases) Amperimetro (3 fases) Frecuencimetro KW- metro kVA- metro Cos φ- metro Revoluciones por minuto metro Termometro agua (opcional) Presión aceite (opcional) Medida horas de marcha Voltmetro tensión de red Voltmetro batería Frecuencia red Tensión de carga Numero de arranques Nivel carburante %	Voltmetro tensione generatore (3 fasi) Amperometro generatore (3 fasi ) Frequenzimetro generatore KW- metro kVA- metro Cos φ- metro Gm metro Temperatura acqua (facoltativo) Pressione olio (facoltativo) Contaore di funzionamento gruppo Voltmetro tensione rete Voltmetro batteria Frequenza rete Tensione di carica Contavviamenti Livello carburante %
<b>INDICATORS</b>	<b>INDICATEURS</b>	<b>INDICADORES</b>	<b>INDICATORI</b>
Mains live Generator live Mains contactor closed Generator contactor closed Engine running	Présence secteur Présence tension générateur Inverseur secteur fermé Inverseur générateur fermé Moteur en marche	Presencia tensión de red Presencia tensión grupo Transferencial red cerrado Transferencial grupo cerrado Motor en marcha	Presenza tensione di rete Presenza tensione generatore Erogazione da rete Erogazione da gruppo Motore avviato
<b>PROTECTIONS</b>	<b>PROTECTIONS</b>	<b>PROTECCIONES</b>	<b>PROTEZIONI</b>
Low oil pressure High engine temperature Low fuel level Fail to start Fail to stop Emergency stop Over/under frequency Over/under voltage Over/under speed Fuel level Belt breakage Over current Over/under battery voltage	Bas pression huile moteur Haute température moteur Bas niveau combustible Non démarrage Non arrêt Arrêt d'urgence Sur/sous fréquence Sur/sous voltage Sur/sous vitesse Niveau de combustible Rupture courroie Surcourant Sur/sus la tension de batterie	Baja presión aceite Elevada temperatura motor Baja nivel carburante Falta de arranque Falta de parada Parada de emergencia Sobre/bajo frecuencia Sobre/bajo voltaje Sobre/bajo velocidad nivel de combustible Ruptura correa Corriente maxima Sobre/bajo voltaje de la batería	Bassa pressione olio Alta temperatura motore Basso livello di carburante Mancato avviamento Mancato arresto Stop d'emergenza Sovra/sotto frequenza Sovra/sotto voltaggio Sovra/sotto velocità Livello del carburante Rottura cinghia Sovraccorrente Sovra/sotto tensione della batteria

**SOUNDPROOF CANOPY  
CAPOTE D'INSONORISATION  
CAPOTA DE INSONORIZACION  
CABINA INSONORIZATA**

GB	F	E	I
<p>The TecnoGen Super Silent soundproof canopy has been designed with the aim of achieving the maximum noise level reduction and to provide a perfect cooling of the engine. The cooling airflow is forced through fixed circuits. The canopy is suitable for tropical ambient application. The exhaust gas silencer is residential type internally mounted. The canopy is completely built of hot galvanized carbon sheet steel. The sheets have a thickness 20/10. The structure is fully bolted, fixed by a special polyethylene sealing, completely free from electrical installation. All the panels can be easily removed. The cab is provided with doors of wide opening for easy access to generating set for the maintenance operations. The soundproofing materials are highly fire resistant and self-extinguishing.</p>	<p>La capote insonorisée TecnoGen Super Silent à été conçue pour atteindre le niveau de bruit le mineur possible et un refroidissement du moteur parfait. Le souffle d'air refroidissant est canalisé en circuits fixes. La capote est apte à être utilisée dans les ambiances tropicales. Le silencieux des gaz d'échappement, de type résidentiel, est mis à l'intérieur de la capote. La cabine est construite en acier galvanisé à chaud. Les tôles ont une épaisseur de 20/10. La structure est complètement boulonnée et fixée à travers des garnitures spéciales au polyéthylène. Tous les panneaux sont facilement amovibles. La cabine est dotée de portes avec grandes ouvertures qui permettent un accès facile au groupe électrogène pour les opérations de manutention. Les matériaux d'insonorisation sont fortement résistant au feu et auto-extinguibles.</p>	<p>La capota insonorizada TecnoGen Super Silent tiene sido planeada con el objetivo de alcanzar el menor nivel de rumorosidad posible y un perfecto enfriamiento del motor. El soplo de aire es canalizado en circuitos fijos. La cabina es apta a ser utilizada en ambientes tropicales. El silenciador de los gases de descargue, de tipo residencial, es colocado dentro de la cabina. La cabina es construida en acero cincado. Las chapas tienen un espesor de 20/10. La estructura es completamente bullonata y montada con sellos especiales de polietilene. Todos los paneles son fácilmente removibles. La cabina es dotada con puertas con amplias aberturas que permiten el fácil acceso al grupo electrógeno por las operaciones de manutención. Los materiales insonorizantes son muy resistentes al fuego y auto-extinguentes.</p>	<p>La cabina insonorizzata TecnoGen Super Silent è stata progettata allo scopo di raggiungere il minor livello di rumorosità possibile e un perfetto raffreddamento del motore. Il soffio d'aria raffreddante è canalizzato in circuiti fissi. La cabina è adatta ad essere utilizzata in ambienti tropicali. Il silenziatore dei gas di scarico, di tipo residenziale, è collocato all'interno della cabina. La cabina è costruita in acciaio zincato a caldo. Le lamiere hanno uno spessore di 20/10. La struttura è completamente bullonata e fissata tramite speciali sigilli al polietilene. Tutti i pannelli sono facilmente rimovibili. La cabina è dotata di porte con ampie aperture che consentono il facile accesso al gruppo elettrogeno per le operazioni di manutenzione. I materiali insonorizzanti sono altamente resistenti al fuoco e autoestinguenti.</p>

***Our quality in 10 points  
Notre qualité résumée en 10 points  
Nuestra calidad en 10 puntos  
La nostra qualità in 10 punti***

1	Internal residential silencer for lower sound levels Silencieux interne pour un niveau bas de bruit Silenciador interno para un nivel de rumorosidad más bajo Silenziatore interno per un livello di rumorosità più basso
2	Integrated fuel tank of different sizes Réservoirs de combustible disponibles, sur demande, de capacité supérieure Tanques integrados disponibles, como opción, de capacidad superior Serbatoi integrati disponibili, su richiesta, di capacità superiore
3	Control panel viewing window to easily check status of generating set Fenêtre de visualisation du panneau de contrôle pour un contrôle plus facile du status opérationnel du groupe Ventana de visualización del panel de control por un más fácil control del estatus operativo del grupo Finestra di visualizzazione del pannello di controllo per un più facile controllo dello status operativo del gruppo
4	Lockable access doors for extra safety and security Porte d'accès avec serrure pour une sûreté majeure Puertas de acceso con cerradura para una mayor seguridad Porte di accesso con serratura per una maggiore sicurezza
5	Galvanized bolts Boulons galvanisés Pernos cincados Bulloni zincati
6	Emergency stop button Interrupteur d'arrêt d'urgence Botón parada de emergencia Pulsante arresto di emergenza
7	Doors location convenient to controls and service area Placement des portes pour rendre les contrôles plus faciles Colocación de las puertas para facilitar los controles Collocazione delle porte per facilitare i controlli
8	High serviceability level Haut niveau d'accessibilité pour la manutention Alto nivel de accesibilidad para la manutención Alto livello di accessibilità per la manutenzione
9	Large cable entry area for easy installation Grande zone d'entrée des câbles pour une installation plus facile Amplia área de entrada cables para una instalación fácil Ampia area di entrata cavi per una facile installazione
10	Galvanized metal steel sheet pre-treated prior to powder coating Tôles en acier galvanisé pré-traitées avant le vernissage à poudre Chapas de acero cincado pre-tratadas antes de la pintura a polvo Lamiere di acciaio zincato pre-trattate prima della verniciatura a polvere

**OPEN SKID VERSION DRAWING  
DESSIN VERSION SUR SKID  
DIBUJO VERSION ABIERTA  
DISEGNO VERSIONE APERTA**

<b>ENGINE:</b> VOLVO TAD1341GE	<b>MOTORRE:</b> VOLVO TAD1341GE	<b>F. AIR INLET</b>	<b>Customer:</b> *****	<b>Materials:</b> Vait	<b>Parts N°:</b> 1 TOT	<b>Sheet N°:</b> 1	<b>Sheets N°:</b> 1		
		<b>AIR DIRECTION</b>	<b>Date:</b> 26/05/10	<b>Designed by:</b> G.P.	<b>File name:</b> VO352T	<b>Foglio N°:</b>	<b>N° Fogli:</b>	<b>Scale:</b> ****	<b>Rev</b>
		<b>FLUSSO ARIA</b>	<b>Client:</b>	<b>Checked by:</b> L.V.	<b>Nome file:</b>			<b>Scad:</b>	<b>Rev</b>
		<b>EXHAUST GAS DIRECTION</b>	<b>Data:</b> 26/05/10	<b>Disegnato da:</b>					<b>Date</b>
		<b>FLUSSO GAS DI SCARICO</b>							<b>Data</b>
									<b>Firma</b>
									<b>L.V.</b>
<b>TECNOGEN</b>			<b>TITLE:</b> Complessivo						
<b>Disegno di proprietà riservato a termini di legge. Vietata la riproduzione e la divulgazione senza autorizzazione scritta</b>			<b>Machine:</b> VO352T						
<b>Disegno di proprietà riservato a termini di legge. Vietata la riproduzione e la divulgazione senza autorizzazione scritta</b>			<b>Drawing N°:</b> VO352T						

**SOUND PROOF VERSION DRAWING  
DESSIN VERSION INSONORISEE  
DIBUJO VERSION INSONORISADA  
DISEGNO VERSIONE INSONORIZZATA**

**EXHAUST GAS Ø150  
GAS DI SCARICO Ø150**

**COOLING AIR EXIT  
USCITA ARIA DI RAFFR. "B"**

**MAX (2000)**

**PANNELLO DI CONTROLLO MANUALE  
MANUAL CONTROL PANEL "B"**

**POWER CABLE OUTLET  
USCITA CAVI DI POTENZA**

**"D" for information only**

**ENGINE: VOLVO TAD1341GE  
MOTORE: Kg: Kg:**

**F - AIR INLET  
AIR DIRECTION  
FLUSSO ARIA  
E - EXHAUST GAS DIRECTION  
FLUSSO GAS DI SCARICO**

Customer: *****	Material: Vari	Parts N: 1 TOT	Sheet N: 1	Sheets N: 1	Scale: ****	Rev	Date	Signature
Client:	Checked by: G.P.	File name: VO352TSS	Foglio N: 1	N Fogli:	Scale: ****	00	26/05/10	L.V.
Date: 26/05/10	Designed by: G.P.	Nome file:	TITLE: Complessivo					
Date: 26/05/10	Controlled by: L.V.	Machine: VO352TSS	Machine: VO352TSS					
Disegno di proprietà riservata e termini di legge. Vietata la riproduzione e la divulgazione senza autorizzazione scritta			Drawing N.: VO352TSS					



# VOLVO PENTA GENSET ENGINE

# TAD1341GE

**NEW!**

308 kW (419 hp) at 1500 rpm, 335 kW (456 hp) at 1800 rpm, acc. ISO 3046

The TAD1341GE is a powerful, reliable and economical Generating Set Diesel Engine built on the dependable Volvo in-line six concept.

## Durability & low noise

Designed for easy, fast and economical installation. Field tested to ensure highest standard of durability and long life. Well-balanced to produce smooth and vibration-free operation with low noise level.

To maintain a controlled working temperature in cylinders and combustion chambers, the engine is equipped with piston cooling. The engine is also fitted with replaceable cylinder liners and valve seats/guides to ensure maximum durability and service life of the engine.

## Low exhaust & noise emission

The state of the art, high-tech injection and highly efficient charge air system with low internal losses contributes to excellent combustion and low fuel consumption.

The TAD1341GE is EU Stage 2 emission certified. An electronically controlled viscous fan drive is available giving substantially lower noise and fuel consumption.

## Easy service & maintenance

Easily accessible service and maintenance points contribute to the ease of service of the engine.

## Technical description

### Engine and block

- Cast iron cylinder block with optimum distribution of forces without the block being unnecessarily heavy.
- Wet, replaceable cylinder liners
- Piston cooling for low piston temperature and reduced ring temperature
- Tapered connecting rods for increased piston lifetime
- Crankshaft induction hardened bearing surfaces and fillets with seven bearings for moderate load on main and high-end bearings
- Case hardened and Nitrocarburized transmission gears for heavy duty operation
- Keystone top compression rings for long service life
- Viscous type crankshaft vibration dampers to withstand single bearing alternator torsional vibrations
- Replaceable valve guides and valve seats
- Over head camshaft and four valves per cylinder



## Features

- Excellent load acceptance
- Highly efficient cooling system
- Dual Speed 1500 / 1800 rpm
- EMS 2
- EU Stage 2 emission certified
- Wide range of optional equipment including visco fan.

### Lubrication system

- Full flow oil cooler
- Full flow disposable spin-on oil filter, for extra high filtration
- The lubricating oil level can be measured during operation
- Gear type lubricating oil pump, gear driven by the transmission

### Fuel system

- Electronic high pressure unit injectors
- Fuel prefilter with water separator and water-in-fuel indicator / alarm
- Gear driven low-pressure fuel pump
- Fine fuel filter with manual feed pump and fuel pressure switch

### Cooling system

- Efficient cooling with accurate coolant control through a water distribution duct in the cylinder block. Reliable sleeve thermostat with minimum pressure drop
- Belt driven coolant pump with high degree of efficiency
- Electronically controlled viscous fan drive provides lower noise and fuel consumption (optional).
- Coolant filter as standard

### Turbo charger

- Efficient and reliable turbo charger
- Electronically controlled Waste-gate
- Extra oil filter for the turbo charger

### Electrical system

- Engine Management System 2 (EMS 2), an electronically controlled processing system which optimizes engine performance. It also includes advanced facilities for diagnostics and fault tracing.
- Possibility to perform a start battery test according to the NCPA requirements via CAN bus signals.
- The instruments and controls connect to the engine via the CAN SAE J1939 interface, either through the Control Interface Unit (CIU) or the Digital Control Unit (DCU). The CIU converts the digital CAN bus signal to an analog signal, making it possible to connect a variety of instruments. The DCU is a control panel with display, engine control, monitoring, alarm, parameter setting and diagnostic functions. The DCU also presents error codes in clear text.
- Sensors for oil pressure, oil temp, boost pressure, boost temp, coolant temp, fuel temp, water in fuel, fuel pressure and two speed sensors.

**VOLVO  
PENTA**

# TAD1341GE

## Technical Data

### General

Engine designation .....	TAD1341 GE	
No. of cylinders and configuration .....	in-line 6	
Method of operation .....	4-stroke	
Bore, mm (in.) .....	131 (5.16)	
Stroke, mm (in.) .....	158 (6.22)	
Displacement, l (in <sup>3</sup> ) .....	12.78 (780)	
Compression ratio .....	18.1:1	
Wet weight, engine only, kg (lb) .....	1325 (2921)	
Wet weight with Gen Pac, kg (lb) .....	1790 (3946)	

<b>Performance</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
with fan, kW (hp) at:		
Prime Power	271 (369)	287 (390)
Standby Power	298 (405)	317 (431)

<b>Lubrication system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Oil consumption, liter/h (US gal/h) at:		
Prime Power	0.04 (0.011)	0.05 (0.013)
Standby Power	0.04 (0.011)	0.05 (0.013)
Oil system capacity incl filters, liter .....	36	

<b>Fuel system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Specific fuel consumption at:		
Prime Power, g/kWh (lb/hph)		
25 %	230 (0.373)	237 (0.384)
50 %	202 (0.327)	211 (0.342)
75 %	195 (0.316)	202 (0.327)
100 %	191 (0.310)	200 (0.324)
Standby Power, g/kWh (lb/hph)		
25 %	226 (0.366)	242 (0.392)
50 %	200 (0.324)	209 (0.339)
75 %	194 (0.314)	201 (0.326)
100 %	191 (0.310)	200 (0.324)

<b>Intake and exhaust system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Air consumption, m <sup>3</sup> /min (cfm) at:		
Prime Power	22.7 (802)	26.4 (932)
Standby Power	24.1 (849)	29.0 (1023)
Max allowable air intake restriction, kPa (PSI) .....	5 (0.7)	
Exhaust gas temperature after turbine, °C (°F) at:		
Prime Power	392 (738)	369 (696)
Standby Power	398 (748)	390 (734)
Max allowable back-pressure in exhaust line, kPa (PSI) .....	10 (1.5)	
Exhaust gas flow, m <sup>3</sup> /min (cfm) at:		
Prime power	49.0 (1732)	58.0 (2047)
Standby Power	52.0 (1839)	61.6 (2175)

<b>Cooling system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Fan power consumption, std ratio, kW (hp) 10 (14)		18 (24)

<b>Cooling performance</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Max cooling air flow, m <sup>3</sup> /s (cfs)	6.7 (237)	8.2 (290)
AOT at max cooling air flow, °C (°F):		
Prime Power	69 (156)	68 (154)
Standby Power	66 (151)	65 (149)

## Standard equipment

	Engine	Gen Pac
<b>Engine</b>		
Automatic belt tensioner	•	•
Lift eyelets	•	•
<b>Flywheel</b>		
Flywheel housing with conn. acc. to SAE 1	•	•
Flywheel for 14" flex. plate and flexible coupling	•	•
<b>Engine suspension</b>		
Fixed front suspension	•	•
<b>Lubrication system</b>		
Oil dipstick	•	•
Full-flow oil filter of spin-on type	•	•
By-pass oil filter of spin-on type	•	•
Oil cooler, side mounted	•	•
Low noise oil sump	•	•
<b>Fuel system</b>		
Fuel filters of disposable type	•	•
Electronic unit injectors	•	•
Pre-filter with water separator	•	•
<b>Intake and exhaust system</b>		
Air filter with replaceable paper insert	•	•
Air restriction indicator	•	•
Air cooled exhaust manifold	•	•
Connecting flange for exhaust pipe	•	•
Exhaust flange	•	•
Turbo charger, low right side	•	•
<b>Cooling system</b>		
Radiator incl intercooler	•1)	•
Coolant pump	•	•
Fan hub	•	•
Thrust fan	•1)	•
Fan guard	-	•
Belt guard	-	•
<b>Control system</b>		
Engine Management System (EMS) with CAN-bus interface SAE J1939	•	•
<b>Alternator</b>		
Alternator 80 A	•	•
<b>Starting system</b>		
Starter motor	•	•
Connection facility for extra starter motor	•	•
<b>Instruments and senders</b>		
Temp.- and oil pressure for automatic stop/alarm	•	•
<b>Other equipment</b>		
Expandable base frame	-	•
<b>Engine Packing</b>		
Plastic wrapping	•	•

1) must be ordered, see order specification

2) Available later

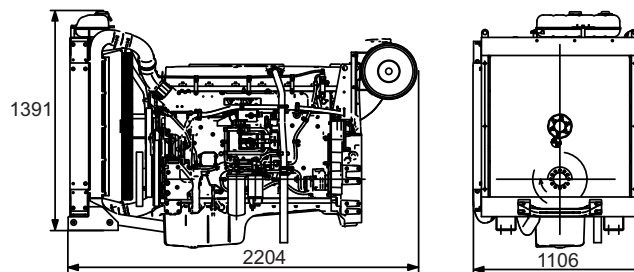
- optional equipment or not applicable

• included in standard specification

For our wide range of optional equipment, please see Order specification.

## Dimensions TAD1341GE

Not for installation



Note! Not all models, standard equipment and accessories are available in all countries.

All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

### Power Standards

The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271. The technical data applies to an engine without cooling fan and operating on a fuel with calorific value of 42.7 MJ/kg (18360 BTU/lb) and a density of 0.84 kg/liter (7.01 lb/US gal), also where this involves a deviation from the standards. Power output guaranteed within 0 to +2% at rated ambient conditions at delivery. Ratings are based on ISO 8528. Engine speed governing in accordance with ISO 3046/IV, class A1 and ISO 8528-5 class G3

### Exhaust emissions

The engine complies with EU stage 2 emission legislation according to the Non Road Directive EU 97/68/EEC. The engine also complies with TA-luft -50% exhaust emission regulations.

### Rating Guidelines

PRIME POWER rating corresponds to ISO Standard Power for continuous operation. It is applicable for supplying electrical power at variable load for an unlimited number of hours instead of commercially purchased power. A10 % overload capability for governing purpose is available for this rating.

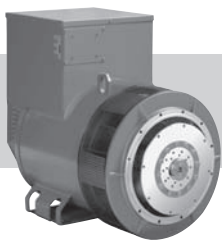
STANDBY POWER rating corresponds to ISO Standard Fuel Stop Power. It is applicable for supplying standby electrical power at variable load in areas with well established electrical networks in the event of normal utility power failure. No overload capability is available for this rating.

1 hp = 1 kW x 1.36

# VOLVO PENTA

AB Volvo Penta

SE-405 08 Göteborg, Sweden  
www.volvopenta.com



# meccalte



# ECO 38N

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 Tel. +39 0444/396111 - Fax +39 0444/396166 - e-mail : info@meccalte.it  
 web site: www.meccalte.com

## 4 POLE

### CHARACTERISTICS

#### INDUSTRIAL RATINGS

ambient 40° C

Type	KVA - cos 0.8φ- 3 Phase continuous							Efficiency		
	CL. H (ΔT= 125°C)				CL. F (ΔT= 105°C)			η % CL. H (ΔT= 125°C)		
Series Star Y	380	400	415		380	400	415	2/4	3/4	4/4
Parallel Star YY	190	200	208	IP45	190	200	208			
Series Delta Δ	220	230	240	400 V	220	230	240			
Parallel Delta ΔΔ	110	115	120		110	115	120			
ECO38-1SN/4	180	<b>180</b>	180	145	170	<b>170</b>	170			
ECO38-2SN/4	200	<b>200</b>	200	160	185	<b>185</b>	185	91,7	92,9	92,7
ECO38-3SN/4	225	<b>225</b>	225	180	207	<b>207</b>	207	92	93,3	93
ECO38-1LN/4	250	<b>250</b>	250	200	230	<b>230</b>	230	92,4	93,7	93,4
ECO38-2LN/4	300	<b>300</b>	300	240	275	<b>275</b>	275	92,7	94	93,7
ECO38-3LN/4	350	<b>350</b>	350	280	320	<b>320</b>	320	92,6	93,7	93,5

Type	CL. H (ΔT= 125°C)				CL. F (ΔT= 105°C)			Efficiency		
	CL. H (ΔT= 125°C)				CL. F (ΔT= 105°C)			η % CL. H (ΔT= 125°C)		
Series Star Y	440	460	480		440	460	480	2/4	3/4	4/4
Parallel Star YY	220	230	240	IP45	220	230	240			
Series Delta Δ	254	265	277	480 V	254	265	277			
Parallel Delta ΔΔ	127	133	138		127	133	138			
ECO38-1SN/4	220	220	<b>220</b>	175	205	205	<b>205</b>			
ECO38-2SN/4	240	240	<b>240</b>	192	220	220	<b>220</b>	92,8	94	93,8
ECO38-3SN/4	270	270	<b>270</b>	215	250	250	<b>250</b>	93,4	94,5	94,2
ECO38-1LN/4	300	300	<b>300</b>	240	280	280	<b>280</b>	93,7	94,9	94,5
ECO38-2LN/4	340	360	<b>360</b>	280	310	330	<b>330</b>	93,9	95,1	94,7
ECO38-3LN/4	420	420	<b>420</b>	330	385	385	<b>385</b>	93,3	94,5	94,3

#### STANDBY RATINGS

Type	KVA Temp. Rise / Ambient °C			KVA Temp. Rise / Ambient °C		
	50 Hz			60 Hz		
	163° / 27°	150° / 40°	125° / 27°	163° / 27°	150° / 40°	125° / 27°
ECO38-1SN/4	196	188	188	236	230	230
ECO38-2SN/4	220	211	211	264	253	253
ECO38-3SN/4	250	237	237	300	284	284
ECO38-1LN/4	275	264	264	330	316	316
ECO38-2LN/4	330	315	315	396	378	378
ECO38-3LN/4	370	360	360	444	432	432

Type	J (Kgm <sup>2</sup> ) B3-B14 FORM	Weight (Kg)	Air Volume		Noise dB(A)			
			Air Volume		50 Hz		60 Hz	
			50 Hz (m <sup>3</sup> /min)	60 Hz (m <sup>3</sup> /min)	1m	7m	1m	7m
ECO38-1SN/4	1,7243	510	32	39	82	69	86	73
ECO38-2SN/4	1,8799	560						
ECO38-3SN/4	2,0751	590						
ECO38-1LN/4	2,3481	680						
ECO38-2LN/4	2,8342	765						
ECO38-3LN/4	3,4747	905						

### ACCESSORIES

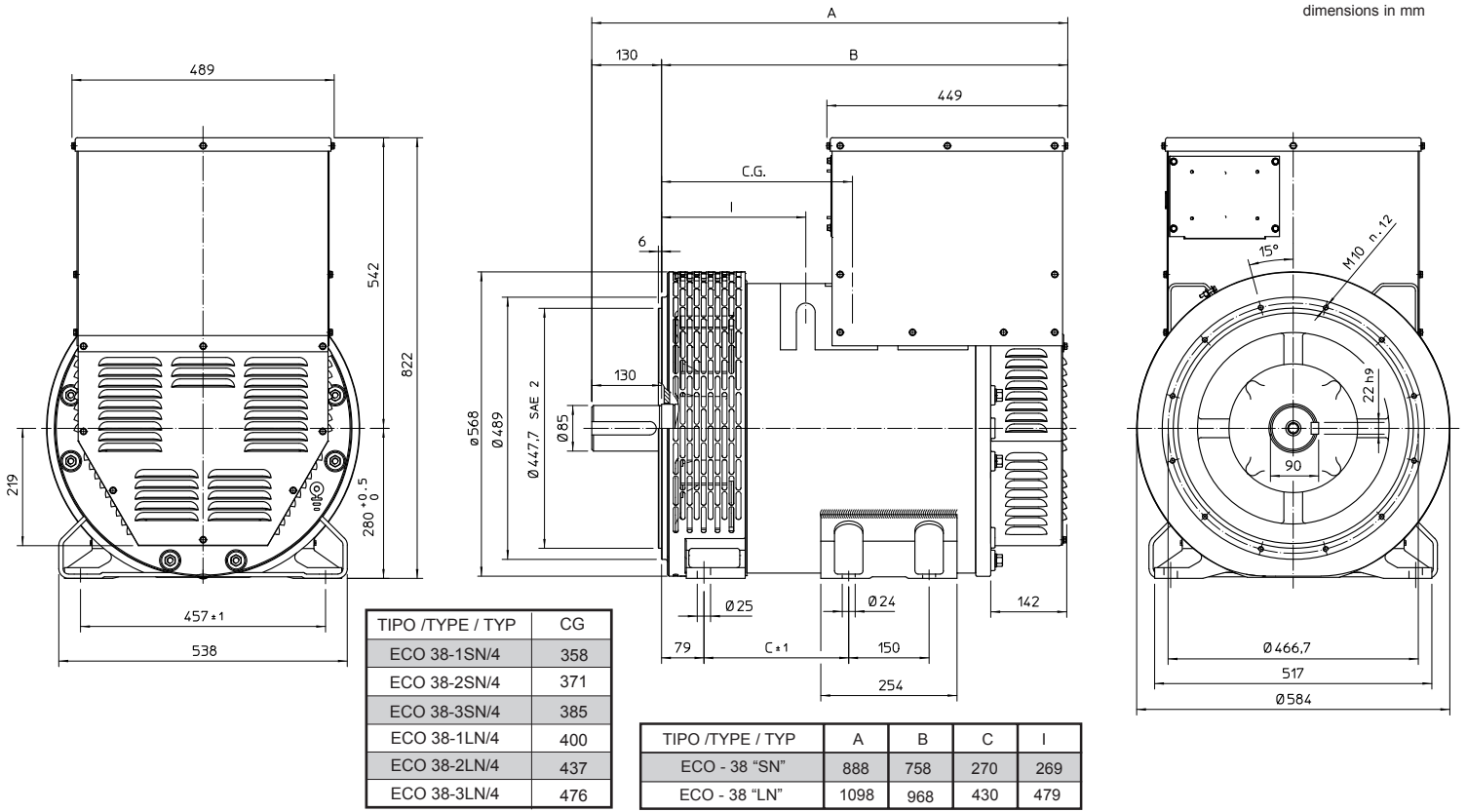
REGULATOR				PARALLEL DEVICE	THERMAL PROTECTION			HEATERS	MECHANICAL PROTECTION		
DSR	DER-1	SR7/2	UVR6		PTC	BIMET. DEVICE	PT100		IP21	IP23	IP45
●	□	□	□	□	□	□	□	□	●	□	□

● = Standard  
 □ = Optional

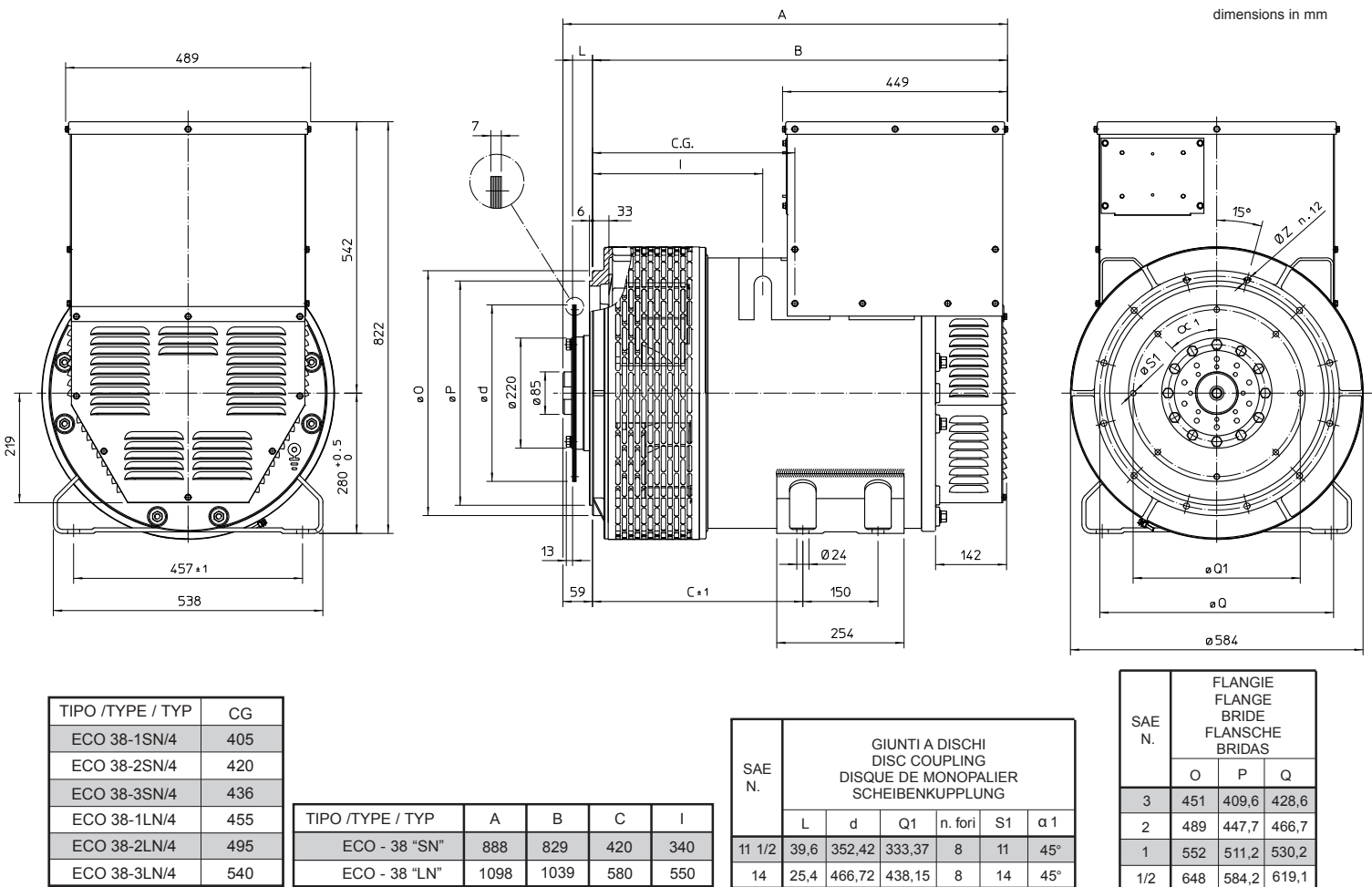
Rating



## OVERALL DIMENSIONS B3-B14 FORM



## OVERALL DIMENSIONS MD35 FORM



# DSECONTROL<sup>®</sup> MONITORING WITH INTELLIGENCE.



## DSE7310 & DSE7320

AUTO START & AUTO MAINS FAILURE CONTROL MODULES (COMMUNICATIONS & EXPANSION)



The DSE7310 and DSE7320 are control modules for single gen-set applications. The modules have been developed from the successful DSE5310 and DSE5320 Series and incorporate a number of advanced features to meet the most demanding on-site applications.

The DSE7310 is an Automatic Start Control Module and the DSE7320 is an Auto Mains (Utility) Failure Control Module. Both modules have been designed to start and stop diesel and gas generating sets that include electronic and non-electronic engines. The DSE7320 includes the additional capability of being able to monitor a mains (utility) supply.

Both modules include USB, RS232 and RS485 ports as well as dedicated DSENet<sup>®</sup> terminals for expansion device connectivity.

The modules are simple to operate and feature a user-friendly menu layout for improved clarity. Enhanced features include a real time clock for enhanced event and performance monitoring, ethernet communications for low cost monitoring, mutual standby (DSE7310 only) to reduce engine wear and tear and preventative maintenance features to detect engine part faults prior to a major problem occurring.

### FEATURES

- Backed up real time clock
- 132 x 64 pixel LCD display
- Configurable display languages
- Five-key menu navigation
- Fully configurable via PC software
- LED and LCD alarm indication
- Engine exercise mode
- Configurable start & fuel outputs
- kWh monitoring
- Automatic load transfer
- Eight configurable digital inputs
- Six configurable outputs
- Configurable timers and alarms
- Modbus RTU
- Magnetic pick-up
- Selected front panel programming
- Multiple date and time exercise scheduler
- SMS messaging (additional external modem required)
- Power save mode
- User selectable RS232 & RS485 communications
- DSENet<sup>®</sup> compatible
- Ethernet communications via DSE860/865
- Multiple date and time maintenance scheduler
- Configurable display pages
- Programmable load shedding/acceptance
- Preventative maintenance
- kW overload protection
- Unbalanced load protection
- Flexible sender input
- Configurable SCADA output page
- True dual mutual standby with load balancing timer (DSE7310 only)
- Fan control for additional cooling
- 'Protections Disabled' facility
- Fuel usage monitoring and low fuel alarm
- Support for up to three remote display units
- Automatic sleep mode
- Easy access, configurable diagnostics page shows summary of output states
- Improved programmable event log (250) showing date and time
- Manual fuel pump control
- 3 alternative configurations
- Multiple date and time scheduler
- 3 Programmable Maintenance alarms with comms alert
- Customisable status screens
- Low fuel level alarm delay
- Charge alternator fail warning and shutdown alarms with user programmable delay
- Independent Earth fault trip
- Sleep mode
- Load switching (Load shedding and dummy load outputs)
- Manual speed trim (on CAN engines that support this feature)
- Additional display screens to help with modem diagnostics
- Security levels – PC software has password system to control access to PC software features
- Operator configurable virtual LEDs visible in SCADA

### NEW FEATURES

- Additional programmable logic
- Improved modem diagnostics
- Remote control sources (10) can be accessed via SCADA
- Additional electrical trip options
- Additional start delay functions
- Oil pressure values from additional engines
- Front panel editing of scheduler
- Displays kW as % of rated kW setting

### SPECIFICATION

#### DC SUPPLY

**CONTINUOUS VOLTAGE RATING**  
8V to 35V Continuous

**CRANKING DIP PROTECTION**  
Able to survive 0V for 50mS, providing supply was at least 10V before dropout and supply recovers to 5V. This is achieved without the need for internal batteries

**CHARGE FAIL/ EXCITATION**  
0V to 35V fixed power source 2.5W

**MAXIMUM STANDBY CURRENT**  
160mA at 12V 80mA at 24V

**MAXIMUM OPERATING CURRENT**  
340mA at 12V 160mA at 24V

#### ALTERNATOR INPUT

**RANGE**  
15V - 333V (L-N) 50Hz - 60Hz  
(Minimum 15V AC Ph-N)

**ACCURACY**  
1% of full scale true RMS sensing

**SUPPORTED TOPOLOGIES**  
3 phase 4 wire  
3 phase 3 wire  
3 phase 4 wire Delta  
Single phase 2 wire  
2 phase 3 wire L1 & L2  
2 phase 3 wire L1 & L3

#### MAINS/UTILITY INPUT (DSE7320 ONLY)

**RANGE**  
15V - 333V (L-N) 50Hz - 60Hz  
(Minimum 15V AC Ph-N)

**ACCURACY**  
1% of full scale true RMS sensing

**SUPPORTED TOPOLOGIES**  
3 phase 4 wire  
3 phase 3 wire  
3 phase 4 wire Delta  
Single phase 2 wire  
2 phase 3 wire L1 & L2  
2 phase 3 wire L1 & L3

#### CT'S

**BURDEN**  
0.5VA

**PRIMARY RATING**  
1A - 8000A (user selectable)

**SECONDARY RATING**  
1A or 5A secondary (user selectable)

**ACCURACY OF MEASUREMENT**  
1% of full load rating

**RECOMMENDATIONS**  
Class 1 required for instrumentation  
Protection class required if using for protection

## SPECIFICATION

### MAGNETIC PICKUP

#### VOLTAGE RANGE

+/- 0.5V minimum (during cranking) to 70V peak

#### FREQUENCY RANGE

10,000 Hz (max)

### OUTPUTS

#### OUTPUT A (FUEL)

15 Amp DC at supply voltage

#### OUTPUT B (START)

15 Amp DC at supply voltage

#### OUTPUTS C & D

8 Amp 250V (Volt free)

#### AUXILIARY OUTPUTS E,F,G,H

2 Amp DC at supply voltage

### DIMENSIONS

#### OVERALL

240mm x 181.1mm x 41.7mm  
9.4" x 7.1" x 1.6"

#### PANEL CUT-OUT

220mm x 160mm  
8.7" x 6.3"  
Max panel thickness 8mm (0.3")

### ENVIRONMENTAL TESTING STANDARDS

#### ELECTRICAL SAFETY

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

#### 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

#### TEMPERATURE (OPERATING)

BS EN 60068  
Test Ab to +70°C 60068-2-2 Hot  
Test Ab to -30°C 60068-2-1 Cold

#### VIBRATION

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

#### HUMIDITY

BS 2011 part 2.1 60068-2-30  
Test Cb Ob Cyclic  
93% RH @ 40°C for 48 hours

#### SHOCK

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

### BENEFITS

- 132 x 64 pixel ratio makes information easy to read
- Real time clock provides accurate event logging
- PC software is license free
- Set maintenance periods can be configured to maintain optimum engine performance
- Ethernet communications provides advanced remote monitoring at low cost
- Modules can be integrated into building management systems
- Preventative maintenance avoids expensive engine down time
- Advanced PCB layout ensures high reliability
- Robust design
- Extensive performance monitoring

### OPERATION

The modules are operated via the START, STOP, AUTO and MANUAL soft touch membrane buttons on the front panel. The DSE7320 also has a TEST button. Both modules include load switch buttons. The main menu system is accessed using the five navigation buttons to the left of the LCD display.

### CONFIGURATION

The modules can be configured using the front panel buttons or by using the DSE Configuration Suite PC software and a USB lead.

### COMMUNICATIONS

The DSE7310 & DSE7320 have a number of different communication capabilities.

#### SMS Messaging

When the module detects an alarm condition, it has the ability to send an SMS message to a dedicated mobile number (s), notifying an engineer of the exact time, date and reason why the engine failed (GSM Modem and SIM Card required).

#### Remote Communications

When the module detects an alarm state, it dials out to a PC notifying the user of the condition (Modem required).

#### Remote Control

The module can be controlled remotely using either a GSM Modem, Ethernet via DSE860/865 or via RS485. Using a modem allows the module to be controlled from any distance. Using RS485 limits the distance to 1km (0.6 miles).

#### Building Management

The module has been designed to be integrated into new and existing building management systems, using RS485.

#### PC Software

The module has the ability to be configured and monitored from a remote PC, using the PC software and a USB lead.

### INPUTS & OUTPUTS

Analogue inputs are provided for oil pressure, coolant temperature and fuel level. These connect to conventional engine mounted resistive sensor units to provide accurate monitoring and protection facilities. They can also be configured to interface with digital switch type inputs for low oil pressure and high coolant temperature shutdowns. Eight user configurable digital inputs are also included, plus one flexible sender.

Outputs are provided for fuel solenoid, start solenoid and six additional configurable outputs. On these configurable outputs a range of different functions, conditions or alarms can be selected.

### INSTRUMENTATION

The modules provide advanced metering facilities, displaying the information on the LCD display. The information can be accessed using the five-key menu navigation to the left of the display.

### DSENET®

DSENet® is a collection of expansion modules that have been created to work with DSENet® compatible control modules. DSENet® allows up to 20 different expansion devices to be used at a time. The expansion modules available are:

- DSE2157 Relay Output Expansion Module
- DSE2130 Input Expansion Module
- DSE2548 Annunciator Module Remote Display Module
- DSE2510 Remote Display
- DSE2520 Remote Display

### EVENT LOG

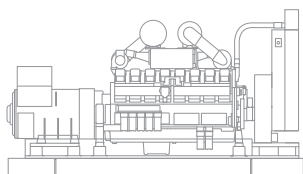
The module includes a comprehensive event log that shows the most recent 250 alarm conditions and the date and time that they occurred. This function assists the user when fault finding and maintaining a generating set.

### ELECTRONIC ENGINE COMPATIBILITY

- CAT
- Cummins
- Deutz
- John Deere
- MTU
- Perkins
- Scania
- Volvo
- IVECO
- Generic
- Plus additional manufacturers

### RELATED MATERIALS

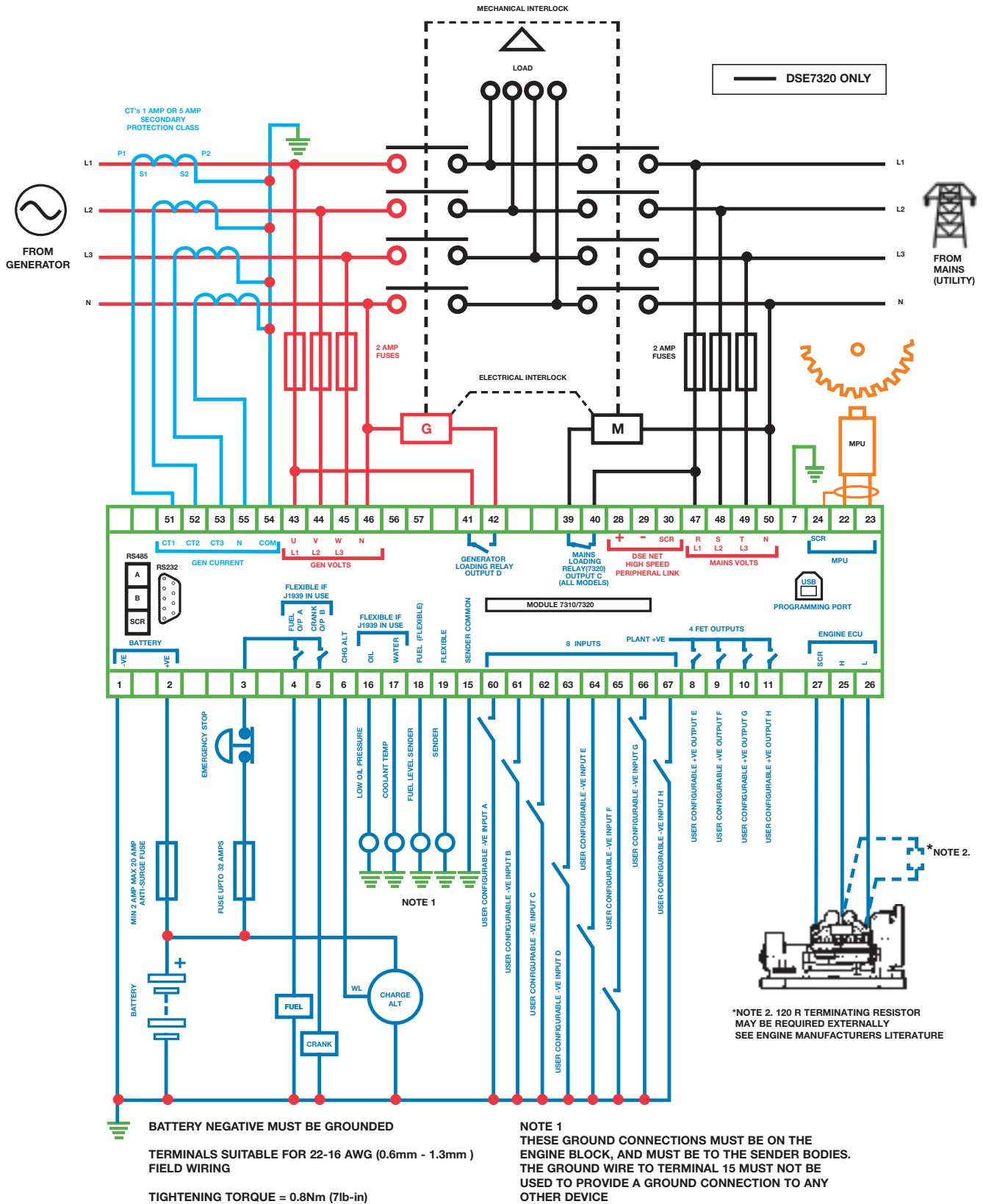
TITLE	PART NO'S
DSE7xxx Manual	057-074
DSE72xx/73xx PC Software Manual	057-077
DSE2130 Data Sheet	053-060
DSE2157 Data Sheet	053-061
DSE2548 Data Sheet	053-062
DSE860/865 Data Sheet	055-071
DSE2510/20 Data Sheet	055-074



**ELECTRONIC ENGINE CAPABILITY**

7310	7320
<p><b>Generator Instruments</b> Volts, Hz, Amps, kW, kVA, Pf, kWh, kVAr, kVArh, KVArh</p> <p><b>Engine Instruments</b> RPM, Oil Pressure, Coolant Temperature, Hours Run, Charging Voltage, Battery Volts.</p> <p><b>Electronic Engines</b> Enhanced Instrumentation and Engine ECU diagnostics via electronic engine interface.</p>	<p><b>Generator Instruments</b> Volts, Hz, Amps, kW, kVA, Pf, kWh, kVAr, kVArh, KVArh</p> <p><b>Engine Instruments</b> RPM, Oil Pressure, Coolant Temperature, Hours Run, Charging Voltage, Battery Volts.</p> <p><b>Electronic Engines</b> Enhanced instrumentation and Engine ECU diagnostics via electronic engine interface.</p> <p><b>Mains/Utility Instruments</b> Volts, Frequency, Amps (optional when CT's are fitted load side of the line)</p>

# DSE7310 & DSE7320



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