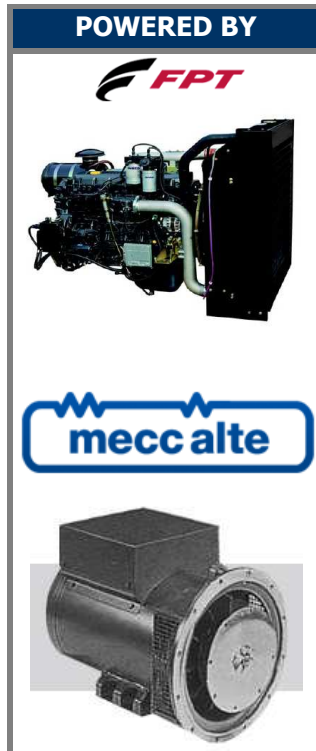


# TENAX K - special with DSE73xx

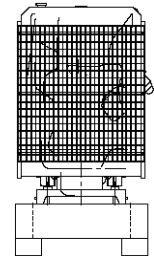
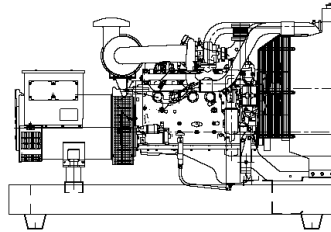
**DIESEL GENERATOR**  
**GROUPE ELECTROGENE DIESEL**  
**GRUPO ELECTROGENO DIESEL**  
**GRUPPO ELETTOGENO DIESEL**

MODEL  
 MODELE  
 MODELO  
 MODELLO

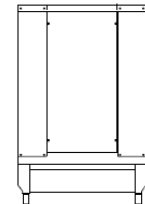
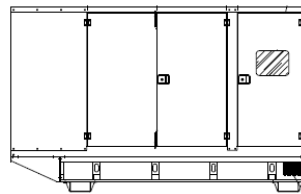
## IV 141 TK



### OPEN VERSION



### SOUNDPROOF VERSION



| GENERATING SET PERFORMANCE<br>PERFORMANCES DU GROUPE<br>PRESTACIONES DEL GRUPO<br>PRESTAZIONI DEL GRUPPO     |       | 50 Hz |            | 60 Hz |            |
|--|-------|-------|------------|-------|------------|
| Voltage<br>Voltage<br>Voltaje<br>Tensione  |       | V     | 400 / 230  | V     | 220 / 127  |
| Continuous Power<br>Puissance service continue<br>Potencia servicio continuo<br>Potenza servizio continuo    | PRP   | kVA   | <b>125</b> | kVA   | <b>145</b> |
| Stand-by Power<br>Puissance service secours<br>Potencia servicio emergencia<br>Potenza servizio in emergenza | LTP   | kVA   | <b>140</b> | kVA   | <b>160</b> |
| Continuous Power<br>Puissance service continue<br>Potencia servicio continuo<br>Potenza servizio continuo    | PRP   | kWe   | 100        | kWe   | 116        |
| Stand-by Power<br>Puissance service secours<br>Potencia servicio emergencia<br>Potenza servizio in emergenza | LTP   | kWe   | 112        | kWe   | 128        |
| Power factor<br>Facteur de puissance<br>Factor de potencia<br>Fattore di potenza                             | cos φ |       | 0,8        |       | 0,8        |
| Fuel consumption<br>Consommation combustible<br>Consumo de combustible<br>Consumo combustibile               | 80 %  | l/h   | 19,3       | l/h   | 22,5       |

| ENGINE<br>MOTEUR<br>MOTOR<br>MOTORE   | IVECO    |       | NEF67SM1A             |                   |                 |   |  |
|---|----------|-------|-----------------------|-------------------|-----------------|---|--|
| PERFORMANCE<br>PERFORMANCES<br>PRESTACIONES<br>PRESTAZIONI  | 1500 rpm |       | 1800 rpm              |                   |                 |   |  |
| Continuous Power<br>Puissance service continue<br>Potencia servicio continuo<br>Potenza servizio continuo   | PRP      | kWm   | 110                   | kWm               | 126             |   |  |
| Stand-by Power<br>Puissance service secours<br>Potencia servicio emergencia<br>Potenza servizio in emergenza  | LTP      | kWm   | 121                   | kWm               | 138             |   |  |
| Specific fuel consumption<br>Consommation spécifique combustible<br>Consumo específico de combustible<br>Consumo specifico combustibile             |          | g/kWh | 50 %<br>80 %<br>100 % | 216<br>214<br>213 | g/kWh           | 50 %<br>80 %<br>100 %                   | 232<br>219<br>216  |
| Diesel 4 Stroke – Injection type<br>Diesel 4 temps – Type injection<br>Diesel 4 tiempos – Tipo de inyeccion<br>Diesel a 4 tempi – Tipo di iniezione |          |       |                       |                   |                 |   | Direct<br>Directe<br>Directa<br>Diretta                            |
| Aspiration type<br>Type d'aspiration<br>Tipo de aspiracion<br>Tipo d'aspirazione  |          |       |                       |                   |                 |   | Turbocharged<br>Suraalimentée<br>sobrealimentato<br>sovralimentata |
| Cooling system<br>Refroidissement<br>Sistema de refrigeracion<br>Raffreddamento   |          |       |                       |                   |                 |   | Water<br>Eau<br>Agua<br>Acqua                                      |
| Speed governor<br>Régulateur de tours<br>Regulador<br>Regolatore di giri  |          |       |                       |                   |                 |   | Mechanical<br>Mécanique<br>Mecanico<br>Meccanico                   |
| Cylinders, numbers and arrangement<br>Nombre et disposition des cylindres<br>Cilindros, numero y disposicion<br>Numero e disposizione dei cilindri  |          |       |                       |                   |                 |   | 6 L  |
| Total displacement<br>Cylindrée totale<br>Cilindrata total<br>Cilindrata totale   |          |       |                       |                   | cm <sup>3</sup> |   | 6700   |
| Bore x stroke<br>Alésage x course<br>Diámetro x carrera<br>Alesaggio x corsa  |          |       |                       |                   | mm              |   | 104 x 132  |
| Engine electric system voltage<br>Voltage système électrique moteur<br>Voltaje sistema eléctrico motor<br>Voltaggio sistema elettrico motore        |          |       |                       |                   |                 |   | 12 V   |
| Derating for temperature<br>Déclassement pour temperature<br>Declasamiento para temperatura<br>Declassamento per temperatura                        |          |       |                       |                   |                 | 0 ÷ 40°C<br>> 40 °C                     | 0<br>3% / 5 °C   |
| Derating for altitude<br>Déclassement pour altitude<br>Declasamiento para altitud<br>Declassamento per altitudine                                   |          |       |                       |                   |                 | 0 ÷ 1000 m<br>1000 ÷ 3000 m<br>> 3000 m | 0<br>3 % / 500 m<br>6 % / 500 m                                    |

| ALTERNATOR<br>ALTERNATEUR<br>ALTERNADOR<br>ALTERNATORE   |   | MECCALTE                               |  |
|--|---|--|--|
| PERFORMANCE<br>PERFORMANCES<br>PRESTACIONES<br>PRESTAZIONI   |   | 1500 rpm                               | 1800 rpm                               |
| Model<br>Modèle<br>Modelo<br>Modello   |   | ECP34-1L/4                             | ECP34-1L/4                             |
| Continuous Power<br>Puissance service continue<br>Potencia servicio continuo<br>Potenza servizio continuo                    | 40 °C   | kVA <b>130,0</b><br>kWe 104,0          | kVA <b>145,0</b><br>kWe 116,0          |
| Stand-by Power<br>Puissance service secours<br>Potencia servicio emergencia<br>Potenza servizio in emergenza                 | 40 °C   | kVA <b>137,0</b><br>kWe 109,6          | kVA <b>165,0</b><br>kWe 132,0          |
| Stand-by Power<br>Puissance service secours<br>Potencia servicio emergencia<br>Potenza servizio in emergenza                 | 27 °C   | kVA <b>142,0</b><br>kWe 113,6          | kVA <b>170,0</b><br>kWe 136,0          |
| Efficiency<br>Rendement<br>Eficienza<br>Efficienza   |   | 2/4 91,5 %<br>3/4 93,2 %<br>4/4 92,7 % | 2/4 93,3 %<br>3/4 94,9 %<br>4/4 94,4 % |
| Standard winding connections<br>Liaison des bobinages<br>Tipo de conexión<br>Collegamento avvolgimenti                       |   | Y                                      | YY                                     |
| Exciter<br>Eccitatrice<br>Excitador<br>Eccitatrice   | <b>brushless</b> rotating exciter design with solid state<br>pivotante <b>sans brosses</b> avec pont de diodes pivotants<br>puente de diodos <b>sin escobillas</b> rotantes<br>rotante <b>senza spazzole</b> con ponte di diodi rotanti |  |  |
| Poles<br>Poles<br>Polos<br>Poli  |   | 4                                      |  |
| Phases<br>Phases<br>Fases<br>Fasi  |   | 3 + N                                  |  |
| Wires<br>Fils<br>Hilos<br>Morsetti   |   | 12                                     |  |
| Voltage accuracy<br>Regulation Voltage<br>Regulación voltaje<br>Regolazione tensione   |   | ± 1 %                                  |  |
| Insulation class<br>Classe d' isolation<br>Classe de aislamiento<br>Classe di isolamento                                     |   | H                                      |  |
| Enclosure<br>Degré de protection mécanique<br>Grado de protección mecánica<br>Grado di protezione meccanica                  |   | IP 21                                  |  |
| Air volume<br>Volume d'air<br>Volumen de aire<br>Volume d'aria   |   | 50 Hz                                  | 19,3 m <sup>3</sup> /min               |
|  |   | 60 Hz                                  | 23,0 m <sup>3</sup> /min               |
| Standard AVR model<br>Modèle AVR standard<br>Modelo AVR standard<br>Modello AVR standard                                     |   | <b>DSR</b>                             |  |
| Derating for temperature<br>Déclassement pour température<br>Declasamiento para temperatura<br>Declassamento per temperatura |   | 0 ÷ 40°C                               | 0                                      |
|  |   | > 40 °C                                | 3 % / 5°C                              |
| Derating for altitude<br>Déclassement pour altitude<br>Declasamiento para altitud<br>Declassamento per altitudine            |   | 0 ÷ 1500 m                             | 0                                      |
|  |   | 1500 ÷ 2500 m                          | 3% / 500 m                             |
|  |   | 2500 ÷ 3000 m                          | 4% / 500 m                             |

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

|  |   |                                 |   |
|--|---|---------------------------------|---|
|  | Integrated fuel tank capacity<br>Capacité réservoir intégré<br>Capacidad Tanque integrado<br>Capacità Serbatoio integrato | Weight<br>Poids<br>Peso<br>Peso | Dimensions<br>Cotes d'encombrement<br>Medidas externas<br>Dimensioni d'ingombro |
|  | (L)   |                                 | (cm)  |
|  | STD   | EXTRA1                          | (kg)  |
| OPEN SKID VERSION<br>VERSION SUR SKID<br>VERSION ABIERTA<br>VERSIONE APERTA                  | 200   | ON REQUEST                      | 1280  |
| SOUND PROOF VERSION<br>VERSION INSONORISEE<br>VERSION INSONORISADA<br>VERSIONE INSONORIZZATA | 200   | ON REQUEST                      | 1750  |
|  |   |                                 | L   |
|  |   |                                 | W   |
|  |   |                                 | H   |

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

| 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 <b>residential</b> 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 <b>con 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**

**200 A** (400 V - 3 ph - 50Hz - 1500 rpm)  
**400 A** (220 V - 3 ph - 60Hz - 1800 rpm)

|   |   |  |   |
|---|---|--|---|
| <b>STANDARD EQUIPMENT:</b><br>4 poles circuit breaker<br>Electronic control board <b>DSE7310</b><br>Emergency Stop button | <b>EQUIPEMENT STANDARD:</b><br>Disjoncteur de protection 4 pôles<br>Fiche électronique <b>DSE7310</b><br>Interrupteur d'arrêt d'urgence | <b>EQUIPAMIENTO STANDARD:</b><br>Interruptor magnetotermico 4 polos<br>Carta electronica <b>DSE7310</b><br>Botón de parada de emergencia | <b>EQUIPAGGIAMENTO STANDARD:</b><br>Interruttore magnetotermico 4 poli<br>Scheda elettronica <b>DSE7310</b><br>Pulsante di arresto di emergenza |
|---|---|--|---|




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


| PROTECTIONS   | PROTECTIONS  | PROTECCIONES   | PROTEZIONI  |
|---|--|--|---|
| Low oil pressure<br>High engine temperature<br>Low fuel level<br>Fail to start<br>Fail to stop<br>Over/under voltage<br>Over/under speed<br>Fuel level<br>Belt breakage<br>Over current<br>Over/under battery voltage | Basse pression huile moteur<br>Haute température moteur<br>Basse niveau combustible<br>Non démarrage<br>Non arrêt<br>Sur/sous voltage<br>Sur/sous survitesse<br>Niveau de combustible<br>Rupture courroie<br>Surcourant<br>Sur/sous tension batterie | Baja presión de aceite<br>Alta temperatura agua<br>Bajo nivel combustible<br>Fallido start<br>Fallido stop<br>Sovra/baja tensión<br>Sovra/baja frecuencia<br>Nivel de combustible<br>Rotura de la correa<br>Sobre intensidad<br>Sobre/baja tension batería | Bassa pressione olio<br>Alta temperatura acqua<br>Basso livello carburante<br>Mancato avviamento<br>Mancato arresto<br>Sovra/sotto frequenza<br>Sovra/sotto voltaggio<br>Livello di combustibile<br>Rottura cinghia<br>Sovraccorrente<br>Sovra/sotto voltaggio batterie |
| DIGITAL METERS  | VOYANT NUMERIQUE POUR  | VISOR DIGITAL PARA   | MISURATORE DIGITALE PER   |
| Generator volts (3 phases)<br>Generator amperes (3 phases)<br>Generator frequency<br>KW-meter<br>kVA-meter<br>Cos φ- meter<br>Rpm meter<br>Gen set hour counter<br>Battery Volts                                      | Voltmètre générateur (3 phases)<br>Ampèremètre générateur (3 phases)<br>Fréquencemètre générateur<br>KW-mètre<br>kVA- mètre<br>Cos φ- mètre<br>Tr/min mètre<br>Totalisateur d'heures de marche<br>Voltmètre batterie                                 | Voltios del generador (3 fases)<br>Amperios del generador (3 fases)<br>Frecuencia del generador<br>kW<br>kVA<br>Cosφ<br>RPM<br>Horas de funcionamiento del grupo<br>Tensión baterías   | Volt generatore (3 fasi)<br>Ampere generatore (3 fasi)<br>Frequenza del generatore<br>kW<br>kVA<br>Cosφ<br>RPM<br>Ore di funzionamento del gruppo<br>Volt 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 6120**  
**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 arrancar 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 DSE6730 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.   |
| FEATURES  | EQUIPEMENT   | EQUIPMENT  | EQUIPAGGIAMENTO  |
| Electronic control module DSE7320<br>Circuit breaker<br>Battery charger<br>Emergency stop button  | Fiche électronique de contrôle DSE7320<br>Disjoncteur de protection<br>Chargeur de batterie<br>Bouton poussoir arrête d'urgence  | Ficha electrónica de control DSE7320<br>Interruptor magnetotermico<br>Cargador de batería<br>Boton de parada de emergencia   | Scheda elettronica di controllo DSE7320<br>Interruttore magnetotermico<br>Carica batteria<br>Pulsante stop emergenza   |
| DIGITAL MEASURING   | MESURES NUMERIQUES   | MEDIDAS DIGITALES  | MISURAZIONI DIGITALI   |
| Generator volts (3 phases)<br>Generator amperes (3 phases)<br>Generator frequency<br>KW-meter<br>kVA-meter<br>Cos φ- meter<br>Rpm meter<br>Water temperature (optional)<br>Oil pressure (optional)<br>Gen set hours counter<br>Mains volts<br>Battery volts     | Voltmètre générateur (3 phases)<br>Ampèremètre générateur (3 phases)<br>Fréquencemètre générateur<br>KW-mètre<br>kVA- mètre<br>Cos φ- mètre<br>Tm mètre<br>Température eau (facultatif)<br>Pression huile (facultatif)<br>Totalisateur d'heures de marche<br>Voltmètre secteur<br>Voltmètre batterie | Voltmetro (3 fases)<br>Amperimetro (3 fases)<br>Frecuencimetro<br>KW- metro<br>kVA- metro<br>Cos φ-metro<br>Revoluciones por minuto metro<br>Termometro agua (opcional)<br>Presión aceite (opcional)<br>Medida horas de marcha<br>Voltmetro tensión de red<br>Voltmetro batería                                    | Voltmetro tensione generatore (3 fasi)<br>Amperometro generatore (3 fasi )<br>Frequenzimetro generatore<br>KW- metro<br>kVA- metro<br>Cos φ-metro<br>Gm metro<br>Temperatura acqua (facoltativo)<br>Pressione olio (facoltativo)<br>Contaore di funzionamento gruppo<br>Voltmetro tensione rete<br>Voltmetro batteria      |
| INDICATORS  | INDICATEURS  | INDICADORES  | INDICATORI   |
| Mains live<br>Generator live<br>Mains contactor closed<br>Generator contactor closed  | Présence secteur<br>Présence tension générateur<br>Inverseur secteur fermé<br>Inverseur générateur fermé   | Presencia tensión de red<br>Presencia tensión grupo<br>Transferencial red cerrado<br>Transferencial grupo cerrado  | Presenza tensione di rete<br>Presenza tensione generatore<br>Erogazione da rete<br>Erogazione da gruppo  |
| PROTECTIONS   | PROTECTIONS  | PROTECCIONES   | PROTEZIONI   |
| Low oil pressure<br>High engine temperature<br>Low fuel level<br>Fail to start<br>Fail to stop<br>Emergency stop<br>Over/under frequency<br>Over/under voltage<br>Over/under speed<br>Fuel level<br>Belt breakage<br>Over current<br>Over/under battery voltage | Bas pression huile moteur<br>Haute température moteur<br>Bas niveau combustible<br>Non démarrage<br>Non arrêt<br>Arrêt d'urgence<br>Sur/sous fréquence<br>Sur/sous voltage<br>Sur/sous vitesse<br>Niveau de combustible<br>Rupture courroie<br>Surcourant<br>Sur/sus la tension de batterie          | Baja presión aceite<br>Elevada temperatura motor<br>Baja nivel carburante<br>Falta de arranque<br>Falta de parada<br>Parada de emergencia<br>Sobre/bajo frecuencia<br>Sobre/bajo voltaje<br>Sobre/bajo velocidad<br>nivel de combustible<br>Ruptura correa<br>Corriente maxima<br>Sobre/bajo voltaje de la batería | Bassa pressione olio<br>Alta temperatura motore<br>Basso livello di carburante<br>Mancato avviamento<br>Mancato arresto<br>Stop d'emergenza<br>Sovra/sotto frequenza<br>Sovra/sotto voltaggio<br>Sovra/sotto velocità<br>Livello del carburante<br>Rottura cinghia<br>Sovracorrente<br>Sovra/sotto tensione della batteria |

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

| GB  | F  | E   | I   |
|---|--|---|---|
| <p>The TecnoGen 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 canopy 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 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 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 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***

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

## Specifications

|  |                       |                 |                              |
|--|-----------------------|-----------------|------------------------------|
| Thermodynamic cycle  |                       |                 | Diesel 4 stroke              |
| Air intake   |                       |                 | TC                           |
| Arrangement  |                       |                 | 6L                           |
| Bore x Stroke  | mm                    | 104 x 132       |                              |
| Total displacement   | l                     | 6.7             |                              |
| Valves per cylinder  |                       |                 | 2                            |
| Injection system   |                       |                 | Mechanical                   |
| Speed governor   |                       |                 | mechanical                   |
| Cooling system   |                       |                 | liquid (water - paraflu 50%) |
| Flywheel housing/flywheel                                    | type                  | SAE 3 / 11" 1/2 |                              |
| Direction of rotation (seen from flywheel side)              |                       |                 | CCW                          |
| Oil specifications   |                       |                 | ACEA E3-E5                   |
| Oil consumption  |                       |                 | <0.1% of fuel consumption    |
| Fuel specifications  |                       |                 | EN 590                       |
| Oil and filter maintenance interval for replacement          | hours                 | 600             |                              |
| Specific fuel consumption at:                                | rpm                   | 1500            | 1800                         |
|  | 100% load l/h (g/kWh) | 28.8 (212.5)    | 33.9 (216.3)                 |
|  | 80% load l/h (g/kWh)  | 23.2 (214.0)    | 27.5 (219.4)                 |
|  | 50% load l/h (g/kWh)  | 14.6 (216.3)    | 18.3 (233.2)                 |
| Coolant capacity: engine only                                | l                     | ~10.5           |                              |
|  | engine+radiator       | l               | ~40.5                        |
| ATB (without canopy)   | °C                    | 51              | 49                           |
| <b>No remote cooling radiator allowed</b>                    |                       |                 |                              |
| Lube oil total system capacity including pipes, filters etc. | l                     | ~17.2           |                              |
| Electric system  |                       |                 | 12 Vcc                       |
| Starting batteries: recommended capacity                     | Ah                    | 1 x 100         |                              |
| Discharge current (EN 50342)                                 | A                     | 650             |                              |
| Cold starting: without air preheating                        | °C                    | -10             |                              |
|  | with air preheating   | °C              | -25                          |

## Performances

| Ratings <sup>1</sup>      |     | 1500 rpm |          | 1800 rpm |          |
|---------------------------|-----|----------|----------|----------|----------|
|                           |     | PRIME    | STAND-BY | PRIME    | STAND-BY |
| Rated Output <sup>2</sup> | kWm | 110      | 121      | 126      | 138      |

1) Ratings in accordance with ISO 8528. For duty at temperature over 40°C and/or altitude over 1000 meters must be considered a power derating factor. Contact the FPT sales organization.

2) Net power at flywheel available after 50 hours running with a ±3% tolerance.

**PRIME POWER:** The prime power is the maximum power available with varying loads for an unlimited number of hours. The average power output during a 24h period of operation must not exceed 80% of the declared prime power between the prescribed maintenance intervals and at standard environmental conditions. A 10% overload is permissible for 1 hour every 12 hours of operation.

**STAND-BY POWER:** The stand-by power is the maximum power available for a period of 500 hours/year with a mean load factor of 90% of the declared stand-by power. No kind of overloads is permissible for this use.

**CONTINUOUS POWER:** Contact the FPT sales organization.

# N67 SM1

121 kW @ 1500 rpm  
138 kW @ 1800 rpm

## Standard configuration

FPT engine N67 SM1 equipped with:

- Mounted radiator
- Mounted belt driven pusher fan
- Fan guard
- Mounted air filter with replaceable cartridges
- Fuel filter
- Primary fuel filter/water separator
- Replaceable oil filter
- Front engine mounting brackets
- Flywheel housing SAE3 and flywheel 11" 1/2
- Re-directable exhaust gas elbow
- Recircled oil breather system
- Oil dipstick
- HWT and LOP sensors
- 12Vdc electrical system
- User's handbook

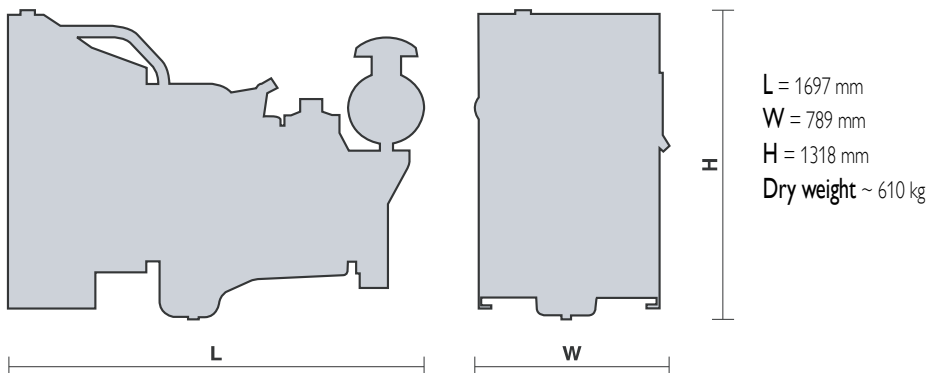
THE ENGINE IS SUPPLIED WITHOUT LIQUIDS

## Optional equipment:

On request the engine can be supplied with:

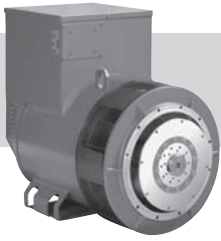
- Oil drain pump
- Oil drain valve
- 120/230 Volt water jacket heater
- WT and OP sensors for gauges
- Low water level sensor
- Turbo and exhaust gas guards
- Exhaust gas flexible joint
- 24Vdc electrical system
- Front radiator guard
- Electronic speed governor

## Overall dimensions:



Publication P4AG6N007E - 01.12  
Specifications subject to change without notice.  
Illustrations may include optional equipment.





# meccalte



# ECP 34

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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 φ 0.8 - 3 Phase continuous |            |     |               |                   |            |     | Efficiency            |      |      |
|-------------------|--------------------------------------|------------|-----|---------------|-------------------|------------|-----|-----------------------|------|------|
|                   | CL. H (ΔT= 125°C)                    |            |     |               | CL. F (ΔT= 105°C) |            |     | η % CL. H (ΔT= 125°C) |      |      |
| 50 Hz             |                                      |            |     |               |                   |            |     |                       |      |      |
| Series Star Y     | 380                                  | 400        | 415 | IP45<br>400 V | 380               | 400        | 415 | 2/4                   | 3/4  | 4/4  |
| Parallel Star YY  | 190                                  | 200        | 208 |               | 190               | 200        | 208 |                       |      |      |
| Series Delta Δ    | 220                                  | 230        | 240 |               | 220               | 230        | 240 |                       |      |      |
| Parallel Delta ΔΔ | 110                                  | 115        | 120 |               | 110               | 115        | 120 |                       |      |      |
| ECP34-1.5VS/4     | 75                                   | <b>75</b>  | 75  | 58            | 67                | <b>67</b>  | 67  | 89                    | 91   | 90,7 |
| ECP34-1S/4        | 85                                   | <b>85</b>  | 85  | 65            | 77                | <b>77</b>  | 77  | 90                    | 91,9 | 91,5 |
| ECP34-2S/4        | 105                                  | <b>105</b> | 105 | 85            | 95                | <b>95</b>  | 95  | 90,7                  | 92,5 | 92,2 |
| ECP34-1L/4        | 130                                  | <b>130</b> | 130 | 104           | 118               | <b>118</b> | 118 | 91,5                  | 93,2 | 92,7 |
| ECP34-2L/4        | 150                                  | <b>150</b> | 150 | 120           | 136               | <b>136</b> | 136 | 92                    | 93,5 | 93,2 |
| ECP34-3L/4        | 155                                  | <b>160</b> | 160 | 125           | 140               | <b>145</b> | 145 | 92,3                  | 93,7 | 93,5 |

| Type              | CL. H (ΔT= 125°C) |     |            |               | CL. F (ΔT= 105°C) |     |            | Efficiency            |      |      |
|-------------------|-------------------|-----|------------|---------------|-------------------|-----|------------|-----------------------|------|------|
|                   |                   |     |            |               |                   |     |            | η % CL. H (ΔT= 125°C) |      |      |
| 60 Hz             |                   |     |            |               |                   |     |            |                       |      |      |
| Series Star Y     | 440               | 460 | 480        | IP45<br>480 V | 440               | 460 | 480        | 2/4                   | 3/4  | 4/4  |
| Parallel Star YY  | 220               | 230 | 240        |               | 220               | 230 | 240        |                       |      |      |
| Series Delta Δ    | 254               | 265 | 277        |               | 254               | 265 | 277        |                       |      |      |
| Parallel Delta ΔΔ | 127               | 133 | 138        |               | 127               | 133 | 138        |                       |      |      |
| ECP34-1.5VS/4     | 85                | 90  | <b>90</b>  | 70            | 75                | 80  | <b>80</b>  | 90,7                  | 92,8 | 92,5 |
| ECP34-1S/4        | 102               | 102 | <b>102</b> | 78            | 92                | 92  | <b>92</b>  | 91,8                  | 93,8 | 93,4 |
| ECP34-2S/4        | 126               | 126 | <b>126</b> | 102           | 114               | 114 | <b>114</b> | 92,3                  | 94,1 | 93,8 |
| ECP34-1L/4        | 145               | 156 | <b>156</b> | 125           | 130               | 141 | <b>141</b> | 93,3                  | 94,9 | 94,4 |
| ECP34-2L/4        | 170               | 180 | <b>180</b> | 144           | 150               | 163 | <b>163</b> | 93,8                  | 95,2 | 95   |
| ECP34-3L/4        | 185               | 192 | <b>192</b> | 150           | 160               | 173 | <b>173</b> | 94,1                  | 95,5 | 95,3 |

#### 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° |
| ECP34-1.5VS/4 | 83                          | 79         | 79         | 100                         | 95         | 95         |
| ECP34-1S/4    | 95                          | 90         | 90         | 114                         | 108        | 108        |
| ECP34-2S/4    | 116                         | 110        | 110        | 139                         | 132        | 132        |
| ECP34-1L/4    | 143                         | 138        | 138        | 171                         | 165        | 165        |
| ECP34-2L/4    | 164                         | 158        | 158        | 196                         | 189        | 189        |
| ECP34-3L/4    | 175                         | 169        | 169        | 210                         | 202        | 202        |

| Type          | J<br>(Kgm <sup>2</sup> )<br>B3-B14 FORM | Weight<br>MD35 (Kg) | Air Volume                  |                             | Noise dB(A) |    |       |    |
|---------------|---|---------------------|-----------------------------|-----------------------------|-------------|----|-------|----|
|               |   |                     |                             |                             | 50 Hz       |    | 60 Hz |    |
|               |   |                     | 50 Hz (m <sup>3</sup> /min) | 60 Hz (m <sup>3</sup> /min) | 1m          | 7m | 1m    | 7m |
| ECP34-1.5VS/4 | 0,6238                                  | 310                 | 19,3                        | 23                          | 79          | 65 | 83    | 69 |
| ECP34-1S/4    | 0,7366                                  | 341                 |                             |                             |             |    |       |    |
| ECP34-2S/4    | 0,9060                                  | 419                 |                             |                             |             |    |       |    |
| ECP34-1L/4    | 0,9923                                  | 445                 |                             |                             |             |    |       |    |
| ECP34-2L/4    | 1,1190                                  | 491                 |                             |                             |             |    |       |    |
| ECP34-3L/4    | 1,1666                                  | 495                 |                             |                             |             |    |       |    |

#### ACCESSORIES

| REGULATOR                           |                          |                          |                          | PARALLEL<br>DEVICE       | THERMAL PROTECTION       |                          |                          | HEATERS                  | MECHANICAL PROTECTION               |                          |                          |                          |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|
| DSR                                 | DER-1                    | SR7/2                    | UVR6                     |                          | PTC                      | BIMET. DEVICE            | PT100                    |                          | IP21                                | IP23                     | IP45                     | IP55                     |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

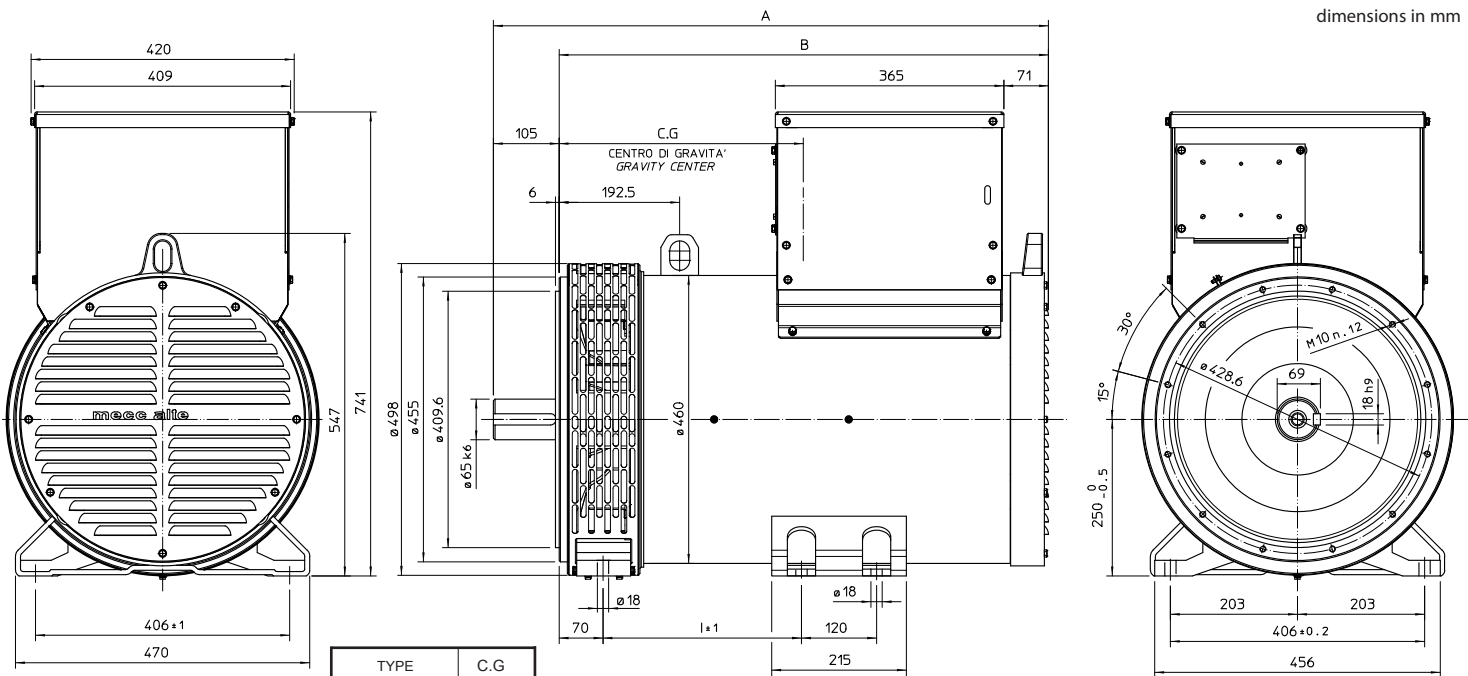
● = Standard  
□ = Optional

Rating



## OVERALL DIMENSIONS B3 - B14 FORM

dimensions in mm

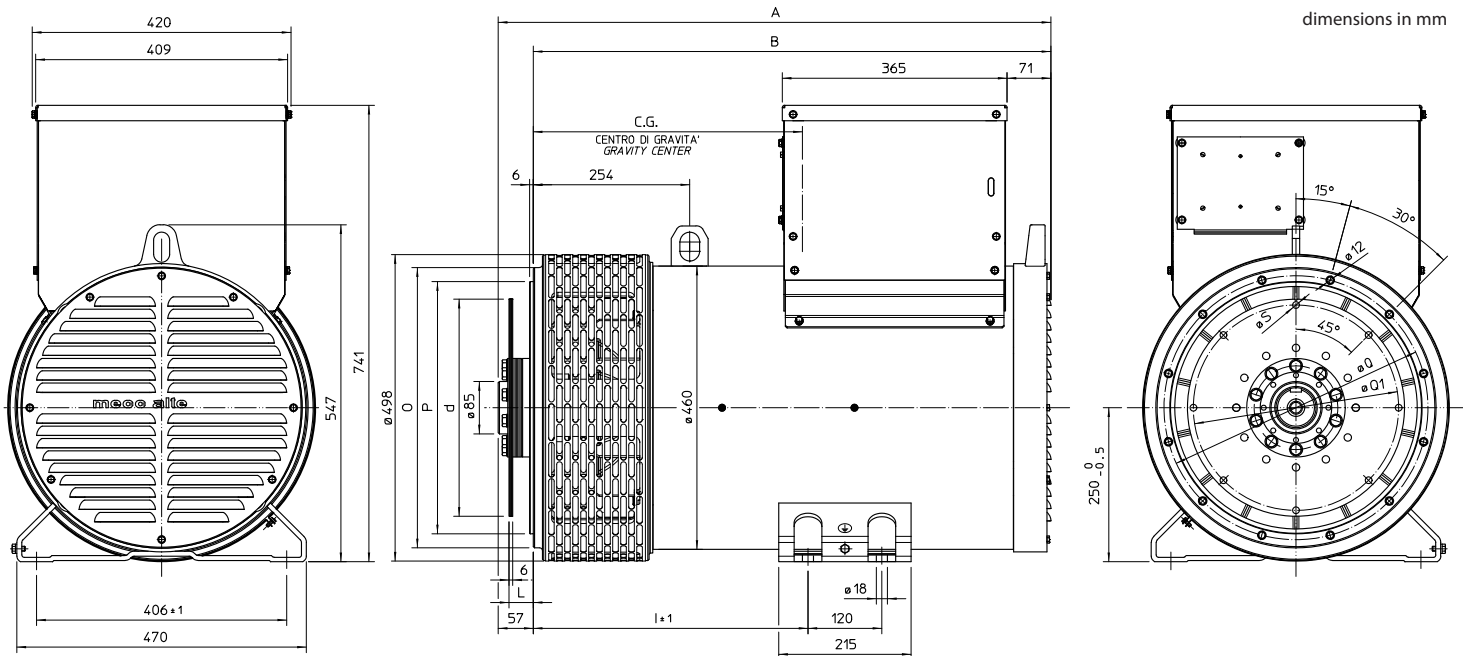


| TYPE           | C.G |
|----------------|-----|
| ECP34- 1.5VS/4 | 287 |
| ECP34- 1S/4    | 310 |
| ECP34- 2S/4    | 350 |
| ECP34- 1L/4    | 365 |
| ECP34- 2L/4    | 390 |
| ECP34- 3L/4    | 390 |

| TYPE      | A     | B     | I   |
|-----------|-------|-------|-----|
| ECP 34 VS | 702   | 597   | 227 |
| ECP 34 S  | 806,5 | 701,5 | 227 |
| ECP 34 L  | 886,5 | 781,5 | 317 |

## OVERALL DIMENSIONS MD35 FORM

dimensions in mm



| SAE N. | DISC COUPLING |        |        |         |    |
|--------|---------------|--------|--------|---------|----|
|        | L             | d      | Q1     | n. fori | S  |
| 10     | 53,8          | 314,32 | 295,27 | 8       | 11 |
| 11 1/2 | 39,6          | 352,42 | 333,37 | 8       | 11 |
| 14     | 25,4          | 466,72 | 438,15 | 8       | 14 |

| SAE N. | FLANGE |       |       |         |
|--------|--------|-------|-------|---------|
|        | O      | P     | Q     | n. fori |
| 3      | 451    | 409,6 | 428,6 | 12      |
| 2      | 489    | 447,7 | 466,7 | 12      |
| 1      | 552    | 511,2 | 530,2 | 12      |

| TYPE          | C.G |
|---------------|-----|
| ECP34-1.5VS/4 | 347 |
| ECP34-1S/4    | 358 |
| ECP34-2S/4    | 398 |
| ECP34-1L/4    | 415 |
| ECP34-2L/4    | 440 |
| ECP34-3L/4    | 440 |

| TYPE        | A     | B     | I   |
|-------------|-------|-------|-----|
| ECP 34 - VS | 712,5 | 655,5 | 356 |
| ECP 34 - S  | 817,5 | 760,5 | 356 |
| ECP 34 - L  | 897,5 | 840,5 | 446 |

# 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

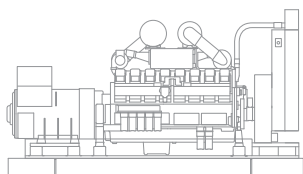
The module includes a comprehensive event log that shows the most recent 250 alarm conditions and the date and time that they occurred. This function assists the user when fault finding and maintaining a generating set.

### 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

##### Generator Instruments

Volts, Hz, Amps, kW, kVA, Pf, kWh, kVAr, kVArh, KVArh

##### Engine Instruments

RPM, Oil Pressure, Coolant Temperature, Hours Run, Charging Voltage, Battery Volts.

##### Electronic Engines

Enhanced Instrumentation and Engine ECU diagnostics via electronic engine interface.

#### 7320

##### Generator Instruments

Volts, Hz, Amps, kW, kVA, Pf, kWh, kVAr, kVArh, KVArh

##### Engine Instruments

RPM, Oil Pressure, Coolant Temperature, Hours Run, Charging Voltage, Battery Volts.

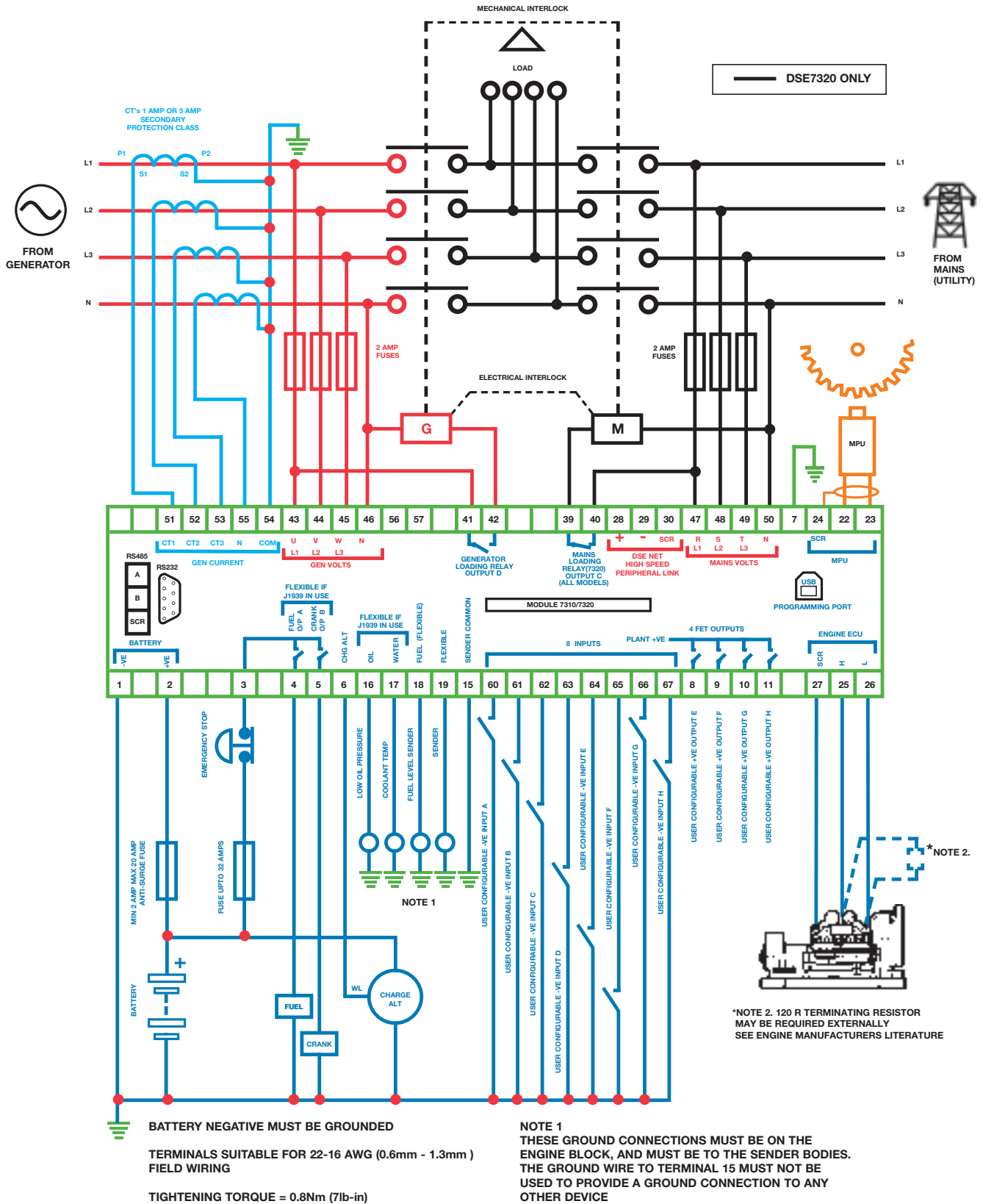
##### Electronic Engines

Enhanced instrumentation and Engine ECU diagnostics via electronic engine interface.

##### Mains/Utility Instruments

Volts, Frequency, Amps (optional when CT's are fitted load side of the line)

# DSE7310 & DSE7320



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