# Model: PDT406A3 - 800 kVA
## PERKINS Industrial Series

50 Hz

Cooling System: Water

Three Phase

Diesel


Foto Indicativa / Indicative Picture

## Features

| | |
|---|---|
| Generating Set Model | PDT406A3 |
| Power in PRP (kVA) | 800 |
| Power in LTP (kVA) | 880 |
| Engine Model | 4006-23TAG3A |
| Engine Brand | PERKINS |
| Alimentation | Diesel |
| Cooling System | Water |
| Displacement (cc) | 22921 |
| Fuel Tank Capacity(lt) | 240.00 |
| Battery Capacity | 2x225 |
| Automatic Control Panel | A4 |
| Manual Control Panel | QMA3 |
| Sound Proof Canopy | CS9 |
| Frequence | 50 Hz |
| Voltage | 400/230 V + N |
| Rounds per Minute | 1500 |

## Basic Configuration

- On-board control panel
- Fuel tank
- Starting battery
- High temperature engine thermostat
- Low pressure oil thrust meter
- Electrovalve engine
- Initial filling of fluids

## Documentation

- User's and maintenance manual
- Electric schemes
- CE declaration
- Test report (on demand)

## Available Options

- Relay and/or differential module
- Over sized fuel tank
- Leakage basin
- Automatic refill system
- Catalytic muffler
- Manual fuel transfer pump
- Manual oil extraction pump
- Welded basaframe
- Reinforced vibration dampers
- Steel tank
- Parallel control panel
- Slow speed trailer
- High speed trailer
- Remote alarm control board
- Commissioning
- Remote management

## Standards Applied

Coelmo Generating Sets are CE marked and comply with the following regulations:
(Environmental conditions 1.000mbar, 25C°, 30% relative humidity. Power refering to ISO 3046)

- Power: ISO 8528
- Directive Machinary : 2006/42/CE - 89/392CEE - 98/37/CE
- Low Voltage : 2006/95/CE - 73/23/CEE - 93/68/CEE
- Electromagnetic Compatibility : 2004/108/CE - 89/336/CEE - 93/68/CEE
- Emissions for non-road engines : 2002/88/CE - 97/68/CE (*)
- Acoustic emission : 2005/88/CE - 2000/14/CE (**)

* For non-stationary use only
** For Sound Proof Version Only

Certified Company
UNI EN ISO 9001 ISO 14001
SA 8000 ISO 45001

COELMO spa
Via delle Industrie, 278 Agglomerato Industriale ASI
80011 Acerra (NA) - Italy
Tel. +39 081 8039731 - Fax. +39 081 8039724
www.coelmo.it - info@coelmo.it

# Model: PDT406A3 - 800 kVA
## PERKINS Industrial Series

## Engine

Diesel engine, four stroke water cooled. An efficient cooling system assures excellent performances in whichever site conditions. A low electric power/displacement ratio guarantees a full available power.

| | |
|---|---|
| Model | 4006-23TAG3A |
| Brand | PERKINS |
| Alimentation | Diesel |
| Number of Cylinders | 6 |
| Displacement (cc) | 22921 |
| Speed Governor | Electronic |
| Aspiration | TC |
| Air Flow Ventilator (m3/h) | 72000 |
| Combustion Air Flow (m3/h) | 3840 |
| Exhaust Gas Flow (m3/h) | 10800 |
| Maximum Exhaust Gas Temperature (ïż½C) | 430 |
| Bore (mm) | 160 |
| Stroke (mm) | 190 |
| Oil cap (l) | 113.40 |
| Rounds Per Minute | 1500 |
| Consumption at 2/4 of the load (l/h) | 88.00 |
| Consumption at 3/4 of the load (l/h) | 132.00 |
| Consumption at 4/4 of load (l/h) | 175.00 |

## Aspiration Type

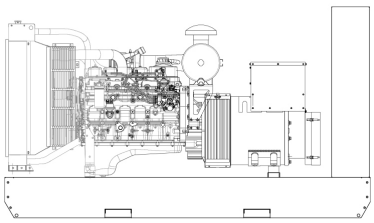
| | | |
|---|---|---|
| NA | = | Natural Aspiration |
| TC | = | Turbo Compressor Air/Air |
| TCA/A | = | Turbo Compressor Water/Air |
| W/A | = | Turbo Compressor Water/Air |

## Alternator

Manufactured in accordance with international IEC 34-1 standards, self regulated, selfexcited, selfventilated, insulated in class "H", regulation accurancy (with load from 0 to 100%) of +/- 1%.

| | |
|---|---|
| Number of Poles | 4 |
| Excitation | Brushless with electronic regulator |
| Number of Terminals | 12 |
| IP | 23 |
| Phase | Three Phase |
| Cos Phi | 0.8 |
| Performance | 0.95 |
| Voltage | 400/230 V + N |

## Dimensions



Disegno a scopo illustrativo / Drawing for illustrative purpose

| | Open | Soundproof |
|---|---|---|
| Length (mm) | 5000 | 5760 |
| Width (mm) | 2000 | 2000 |
| Height (mm) | 2350 | 2580 |
| Weight (kg) | 6148 | 7563 |

Certified Company
UNI EN ISO 9001 ISO 14001
SA 8000 ISO 45001

COELMO spa
Via delle Industrie, 278 Agglomerato Industriale ASI
80011 Acerra (NA) - Italy
Tel. +39 081 8039731 - Fax. +39 081 8039724
www.coelmo.it - info@coelmo.it

# Control Panel: Automatic
# Model: A4
## Industrial Range


## Technical Data Sheet

| | |
|---|---|
| Control Panel Model | A4 |
| Type | Automatic |
| Applicable Range(kVA) | 600 - 1022 |
| Change Over | By motorized change over switch |
| IP | 20 |
| Control Board Model | COELMO Lexys AMF 4.1 |

## Control Board Dimensions

| | |
|---|---|
| Length (mm) | 1000 |
| Width (mm) | 500 |
| Height (mm) | 2000 |

## Standard Set-up

- Voltage, Current, Power and energy
- Power Factor
- Energy Meter
- Frequence
- Engine Rounds
- Number of Start Ups
- Function Hours and Maintenance Notice
- Engine Temperature Indicator*
- Oil Pressure and Fuel Level Indicator*

* Transducers Not Included

## Available Options

- Remote management and reports from PC to fax or via the GSM network
- Alarm Report Control Board
- Remote Control Management Kit

## Description

The automatic control panel and change over switch allows a perfect management of the Generating Set. A magnetothermic circuit breaker is available for the protection of Generating Set and eventual sockets. As an option a Change over switch Mains/Generating Set can be supplied. The control board (micro processor) that is supplied along with the Automatic control panel allows 4 different operational functions: "manual", "automatic", "test", "supermanual". The diagnostics is multilingual (Italian, English, French and Spanish), with clear messages regarding the operational state and active alarms. The electronic board is entrusted with the management of operational safety, thanks to visual/acoustic alarms and eventual engine shutdown, it can help prevent damage caused by malfunctions. The control board counts the number of start attempts and issues the following clear messages on the illuminated display: Running hours, engine speed, start attemps, phase-phase voltage and phase-neutral voltage, battery voltage, active power, apparent power, power factor, provided power, alarms, optional mechanical measurements (oil pressure, engine temperature, fuel level meter).
The automatic control panel manages its own maintenance program indicating the routine maintenance to be performed. It offers the possibility to calibrate measuring instruments and to regulate more than 70 parameters. It can be managed and programmed through a PC and remotely managed thanks to an RS232 port. It has a historic memory that records the breakdowns and services.

Certified Company
UNI EN ISO 9001 ISO 14001
SA 8000 ISO 45001

COELMO spa
Via delle Industrie, 278 Agglomerato Industriale ASI
80011 Acerra (NA) - Italy
Tel. +39 081 8039731 - Fax. +39 081 8039724
www.coelmo.it - info@coelmo.it

# Control Panel: Manual
# Model: QMA3
## Industrial Range


## Technical Data Sheets

| | |
|---|---|
| Control Panel Model | QMA3 |
| Type | Manual with Aut. Remote Start |
| Applicable Range(kVA) | 180 - 2058 |
| Chang Over | Absent |
| IP | 20 |
| Control Board Model | GIOTTO M 4.1 |

## Control Board Dimensions

| | |
|---|---|
| Length (mm) | 650 |
| Width (mm) | 400 |
| Height (mm) | 260 |

## Standard Set-up

- Hour Meter
- Voltmeter
- Amperometer
- Frequenzy meter
- Emergency Stop Button

## Available Options

- Fuel Level Indicator*
- Engine Temperature Indicator*
- Oil Pressure Indicator*

* Transducers Not Included

## Description

The manual control panel is contained in an iron steel box and is mounted on the Generating Set. A side opening allows easy inspection of the circuits. A magnetothermic circuit breaker for the protection of the generating set and eventual plug sockets are available upon request. The control board (micro processor) that is supplied along with the Automatic control panel allows 2 different operational functions: "manual" and "supermanual". The diagnostics is multilingual (Italian, English, French and Spanish), with clear messages regarding the operational state and active alarms. The electronic board is entrusted with the management of operational safety, thanks to visual/acoustic alarms and eventual engine shutdown, it can help prevent damage caused by malfunctions. The control board counts the number of start attemps and issues the following clear messages on the illuminated display: Running hours, engine speed, the start attemps, phase-phase voltage and phase-neutral voltage, battery voltage, current on 3 phase, frequency, battery voltage and the alarms.
The manual control panel signals an alarm when maintenance is required on the generating set and offers the possibility to calibrate measuring instruments and to regulate many parameters. 2 programmable inputs and 2 programmable outputs are also included.

Certified Company
UNI EN ISO 9001 ISO 14001
SA 8000 ISO 45001

COELMO spa
Via delle Industrie, 278 Agglomerato Industriale ASI
80011 Acerra (NA) - Italy
Tel. +39 081 8039731 - Fax. +39 081 8039724
www.coelmo.it - info@coelmo.it

# Control Panel: Parallel
# Model: QPA3-2A
## Industrial Range


## Technical Data Sheets

| | |
|---|---|
| Control Panel Model | QPA3-2A |
| Type | Parallel |
| Applicable Range (kVA) | - |
| Change Over | Absent |
| IP | 20 |
| Control Board Model | COELMO Lexys SYNC |

## Control Board Dimensions

| | |
|---|---|
| Length (mm) | 770 |
| Width (mm) | 300 |
| Height (mm) | 1350 |

## Standard Set-up

- Manual and Automatic start up from an external signal
- Automatic start up and shutdown according to the load
- Automatic load sharing
- Generating Set power Load/Unload Ramp
- Automatic management of the Start up according to the working hours
- Possibility of Synchronization and load sharing of up to 8 Generating Sets
- Automatic Master/Slave switch for the eventual case of a break down of the Master
- Possibility to connect CANJ1939 o the engine
- Event log upto 512 events
- Meausures in real efficient values
- Black Start and shut down Management on deadband
- Voltage and Current Balance Control Management
- Scheduled Maintenance Management
- buffer battery
- Possibility to schedule the start ups
- Possibility of PLC type programming

## Descriptions

The Lexys Sync parallel control panel is able to manage Generating set load sharing in parallel both locally and remotely,. The module also includes a motorized 4p circuit breaker for the closure of the synchronization on a common bus bar. The communication between the various Generating Sets functioning in parallel is made through Can bus and it is possible to manage up to 8 Generating Sets at a time that do not have to be of the same power.
Lexys Sync automatically controls starting, stopping, synchronization and load sharing of generating sets connected to the common bus bar system and analyses the thresholds of the internal protections and various digital inputs. In the case of a start up request, all units will start up simultaneously based on the required power output required from the system, synchronizing and closing each switch on the bus bar. The system manages the automatic allocation at an equal percentage of the load between the Generating sets even if they have different power sizes. The Generating Set master controls the power required by the load and the logical start and / or stops the various Generating Sets on the system depending on the performance of the load. The Master Generating set selection can be manual or automatic depending on the working hours of the individual machines.

## Available Options

- Ground Failure
- Synchronization with the mains
- To and from Mains Load/unload ramp
- Parallel to mains
- Paralle without exporting on to the mains
- Relay interface module
- Configuration software with USB adapter
- Remote monitoring and Parameter download software
- ERMES remote management kit
- Programme block key

Certified Company
UNI EN ISO 9001 ISO 14001
SA 8000 ISO 45001

COELMO spa
Via delle Industrie, 278 Agglomerato Industriale ASI
80011 Acerra (NA) - Italy
Tel. +39 081 8039731 - Fax. +39 081 8039724
www.coelmo.it - info@coelmo.it

# Control Panel: Parallel
# Model: PDT406A3
## Industrial Range

## Advanced Features

### Electrical measuring instruments
- Generating Set Voltage V: L1-N, L2-N, L3-N, L1-L2, L2-L3, L3-L1
- Generating Set Current A: L1, L2, L3
- Active Generated Power KW: L1, L2, L3, kW tot.
- Apparent Generated Power KVA: L1, L2, L3, kVA tot.
- Reactive Generated Power KVAr: L1, L2, L3, kVAr tot.
- Power Factor Cos Phi: L1, L2, L3, Cos Phi medio
- Generating Set Frequency,
- Bus Bar Voltage V: L1-N, L2-N, L3-N, L1-L2, L2-L3, L3-L1
- Bus Bar Frequency
- Syncroscope with Phase Angle
- Frequency Alignment / Generating Set-Bus Bar Voltage
- Load Percentage
- Battery Voltage
- Energy meters: kWh, kVAh, kVArh

### Measurements of mechanical quantities
- Engine Rounds RPM
- Cooling Liquid Temperature
- Oil Pressure
- Oil Temperature
- Fuel Level
- Working Hours
- Hour count down for Maintenance
- Number of Start Ups
- Number of Generating Sets connected to the bus bar system

### Blocks and Alarms
- Generating Set Minimum and Maximum Voltage (Two Thresholds)
- Generating Set Minimum and Maximum Frequency (Two Thresholds) (due soglie)
- Battery Minimum and Maximum Voltage
- Low Fuel Level (Two Thresholds)
- High Oil/Water Temperature (Two Thresholds)
- Low Oil Pressure (Two Thresholds)
- Low Water Level
- Start/Stop Failure
- Incorrect phase sequence
- Communication Error on J1939 / Can Bus / Data Link
- Voltage/Current Imbalance
- Dynamo Failure CB
- Speed Governor contrôle / Voltage Failure
- Insufficient power to the system (Generating Set Insufficient)
- Maintenance Request
- Inverse Power
- Overload
- Maximum Current (Two Thresholds)
- Synchronization Failure
- Generating Set Circuit Breaker Open/CLose Failure
- Incorrect Bus Bar phase sequence
- No busbar for synchronization
- Bus Bar Voltage out of range
- Dead Band

Certified Company
UNI EN ISO 9001 ISO 14001
SA 8000 ISO 45001

COELMO spa
Via delle Industrie, 278 Agglomerato Industriale ASI
80011 Acerra (NA) - Italy
Tel. +39 081 8039731 - Fax. +39 081 8039724
www.coelmo.it - info@coelmo.it

# Sound Proof Canopy
# Model: CS9
## Industrial Range PERKINS


77 dB(A) at 7 meters

## Technical Data Sheet

| | |
|---|---|
| Canopy Model | CS9 |
| Length (mm) | 5760 |
| Width (mm) | 2000 |
| Height (mm) | 2580 |
| Noise (dB(A) at 7 meters) | 77 |

## Description

The canopy is a self-supported structure in pressure folded and soldered steel sheets. The structure is reinforced with four flat corner brackets made of steel sheets. Before being accurately covered in two layers of epoxy resin, the canopy is subject to an anti corrosion treatment and then highly acoustic and auto extinguishing panels are applied. The insulating separators act as thermal noise traps and room dividers, channeling the flow of cool air and prevents its mixture with hot water. The cooling system is enhanced with appropriate measures that help to provide safe characteristics of continuous service. The doors are water and dust tight, allowing an easy access to the Generating set. The lifting hooks provide a balanced handling of the Generating Set when in suspension. The Sound proof version guarantees a noise level of 77 dBA at 7 meters. As an option the Generating Set can be prepared for slow speed and high speed towing that allows the Generating Set to be moved easily.

- Dimensions are relative to the Generating Set complete with Canopy
- The height includes the muffler

Certified Company
UNI EN ISO 9001 ISO 14001
SA 8000 ISO 45001

COELMO spa
Via delle Industrie, 278 Agglomerato Industriale ASI
80011 Acerra (NA) - Italy
Tel. +39 081 8039731 - Fax. +39 081 8039724
www.coelmo.it - info@coelmo.it