SPMD1401

01 / Product identity and control context

Inverter Power Module

Emerson SPMD1401 is a Control Techniques Unidrive SPM DC-input inverter power module for modular motor-drive systems. Its 400 V class power stage provides 205 A Normal Duty continuous output under the specified operating conditions.

Key characteristics

Product type	DC-input inverter power module
Product series	Unidrive SPM, frame size 1
Normal Duty output	205 A at 40°C, 3 kHz
Internal brake transistor	Fitted

Functional relationship



Power-stage identity

Match SPMD1401, its brake configuration and the fitted control pod to the cabinet record.

Configuration boundary

400 V class ratings apply to the specified SPMD power stage. Duty, switching frequency, ambient temperature, altitude and parallel operation affect permissible output; the supplied control pod and system configuration require separate matching.

Product and installation enquiries

sales13@apterpower.com | +86 18030235313

Apply manufacturer instructions and approved site procedures.

02 / Technical characteristics

Hardware and functional data

Product series	Unidrive SPM
Product type	DC-input inverter power module
Frame size	1
Drive voltage class	380-480 V AC ±10% system supply; inverter input is DC
Normal Duty continuous output	205 A at 40°C, 3 kHz, up to 1000 m
Normal Duty nominal motor power	110 kW at 400 V

Interfaces and operating conditions

Heavy Duty nominal motor power	90 kW at 400 V
Internal brake transistor	Fitted
Fan supply	External 24 V DC
Parallel operation	Output sharing chokes and applicable derating required
Control arrangement	Match the fitted master or slave control pod

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03 / Application and integration contexts

Fan and pump drives

Normal Duty operation provides 205 A continuous output at the stated rating conditions. Match motor current and the speed-dependent thermal protection to the load.

Constant-torque machinery

Heavy Duty selection uses a nominal 90 kW motor rating at 400 V. Check the starting torque, overload duration and cooling requirement for the machine cycle.

Electrical system

Confirm DC supply design, motor voltage/current, protection and the external 24 V fan supply.

Common DC-bus systems

The DC-input inverter can form part of a common-bus drive design. Coordinate bus protection, charging, isolation and energy flow with every connected power stage.

Parallel power stages

Matched SPM modules can be combined in an engineered parallel arrangement. Use the required output sharing chokes, master/slave connections and derated current values.

Duty and cooling

Use 205 A Normal Duty only under the stated rating conditions; apply switching-frequency, temperature, altitude and parallel derating.

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04 / Installation and release decisions

Identify the power input

SPMD is a DC-input inverter stage. Do not connect AC mains directly to its DC terminals; match the rectifier, DC bus and protection to the approved design.

Isolate every energy source

Use qualified personnel and approved isolation procedures. Account for the DC bus, external auxiliary supplies and regenerated energy; verify safe discharge before work.

Maintain cooling

Provide the external 24 V fan supply and unobstructed cooling paths. Cabinet temperature and switching frequency affect the permissible continuous current.

Match braking hardware

An internal brake transistor is fitted. A braking resistor is a separately selected system component; its resistance, thermal protection and energy rating must match the duty.

Preserve the control arrangement

Record the fitted pod, option modules, motor and encoder data before replacement. A slave pod does not provide the independent control interfaces of the master pod.

Validate parallel operation

Use matching power stages, the specified paralleling connections and output sharing chokes. Apply the additional current derating and test the completed drive system before release.

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05 / Lifecycle, evidence and related portfolio

Lifecycle status

The current manufacturing and service-support phase for this complete model has not been confirmed.

Supply boundary

Apter Power availability and dispatch are confirmed separately from the manufacturer lifecycle phase.

Technical basis

Control Techniques Unidrive SPM User Guide, 0471-0053-05, Issue 5.

Related product references

Emerson SPMD1423

Emerson SPMD1404

Navigation only; no substitute or accessory compatibility is implied.

Offered-unit verification

Compare the complete label, connectors, mounting arrangement and applicable hardware/software revision. Confirm included components and accompanying documents in the quotation.

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