

YASKAWA CPCR-FR01RB-T3L

Rack-mounted transistorized PWM reversible DC servo speed controller

Overview

YASKAWA CPCR-FR01RB-T3L is a rack-mounted transistorized PWM reversible DC servo speed controller matched to the UGTMEM-03LB servomotor. The documented combination provides 46.8 W effective output at 1000 rpm and supports a maximum drive speed of 1700 rpm within the published operating limits.

01 / Function

Controls the matched UGTMEM-03LB DC servomotor in forward and reverse operation

02 / Function

Uses transistorized PWM speed regulation with a published 1:1000 speed range

03 / Function

Accepts rated and auxiliary speed references with tachogenerator feedback

04 / Function

Provides base-off, overtravel, overload, overcurrent, overheat and fuse supervision

PARAMETER	SPECIFICATION
Country of origin	Japan
HS / tariff code	8537101190
Shipping origin	Xiamen, Fujian, China
Stock / delivery	1 / 3 days; fast shipment

Install YASKAWA CPCR-FR01RB-T3L only with the documented motor, transformer, reactor, connector and machine wiring arrangement. Confirm the feedback voltage, reference polarity, current limit, base-off logic and overtravel logic against the controlled drawing before commissioning.

Technical parameter dashboard

YASKAWA CPCR-FR01RB-T3L

PARAMETER	SPECIFICATION
Exact Servopack type	CPCR-FR01RB-T3L
Matched servomotor	UGTMEM-03LB
Product function	Reversible DC servo speed controller
Control scheme	Transistorized PWM
Mounting	Rack / base mounting
Effective output	46.8 W
Rated motor speed	1000 rpm
Maximum drive speed	1700 rpm
Effective torque	4.56 kg-cm
Effective current	4.4 A
Allowable load GD2/4	4.46 kg-cm2
Maximum servomotor capacity	120 W
Power transformer	Separately supplied

PARAMETER	SPECIFICATION
Applicable one-axis transformer	CPT10114, 210 VA
Applicable DC reactor	X3064, 1 mH / 8 A
Main supply	1-phase 100/200 V AC at 50 Hz or 110/220 V AC at 60 Hz
Supply tolerance	+/-10%
Transformer capacity range	150-300 VA
Shipment instantaneous max current	8 A, limitation M
Servopack instantaneous max output current	12 A +/-10%
Continuous output current / voltage	5.6 A / 30 V
Current waveform factor	1.05 maximum
Output derating factor	95% minimum
Speed-control range	1:1000
Rated-speed reference input	+/-6 V, approximately 10.5 kohm
Auxiliary speed reference	+/-2 V to +/-10 V

PARAMETER	SPECIFICATION
Tachogenerator feedback	3 V / 1000 rpm for T3 option
Built-in reference supply	+/-8 V +/-0.5 V, 10 mA
Overtravel inputs	Forward and reverse base-off inputs
External base-off	20-40 ms delay after release
Alarm transistor output	30 V DC, 50 mA maximum
Blown-fuse / overheat contact	30 V DC, 50 mA maximum dry contact
Operating temperature	0 to +55 deg C
Storage temperature	-20 to +70 deg C
Operating humidity	85% maximum, non-condensing
Cooling	Natural cooling; forced air at 2 m/s when three or more FR01 units are installed
Vibration limit	0.5 G maximum
Built-in protections	Overload, overcurrent, heat-sink overheat and blown-fuse detection

Application and installation

YASKAWA CPR-01RB-T3L

Legacy DC servo-axis control

Operate the documented UGTMEM-03LB motor in a CPR-01RB machine axis.

Reversible speed regulation

Use positive and negative speed-reference commands for controlled forward and reverse operation.

Tachogenerator feedback

Close the speed loop using the T3 option's 3 V/1000 rpm feedback arrangement.

Controlled machine retrofit

Replace the same ordered Servopack while retaining the original transformer, reactor, connector and protection logic.

Product Precautions

01 / Check

Verify the full CPR-01RB-T3L nameplate and the matched UGTMEM-03LB servomotor before work.

02 / Check

Isolate the separately supplied main and control power circuits and confirm zero energy before disconnecting terminals.

03 / Check

Use the documented CPT10114 transformer and X3064 reactor arrangement for this exact motor combination.

04 / Check

Record every 1CN connector, terminal, shield, reference and feedback conductor before removal.

05 / Check

Confirm the T3 tachogenerator feedback value of 3 V/1000 rpm and preserve signal polarity.

06 / Check

Set current limiting and overload protection for the installed motor; do not rely on the Servopack overload circuit as complete motor protection.

07 / Check

Provide 2 m/s forced airflow when three or more FR01 units are installed together and keep the heat sink unobstructed.

08 / Check

Test base-off, forward/reverse overtravel, alarm, overcurrent, overheat and fuse-detection functions before service release.

Technical notes: Use the separately supplied transformer and the documented CPT10114/X3064 arrangement for the CPR-01RB-T3L and UGTMEM-03LB combination. The T3 suffix identifies 3 V/1000 rpm tachogenerator feedback. Match reference, feedback, current-limit, base-off and overtravel wiring to the original machine drawing before operation.

Important Notice: Confirm the complete CPR-01RB-T3L identity and the matched UGTMEM-03LB motor before replacement. Isolate all main and control power, prove the circuit de-energized, and preserve the original terminal and connector mapping.

Engineering FAQ

YASKAWA CPCR-FR01RB-T3L / same answers as the product page

Which motor is matched to YASKAWA CPCR-FR01RB-T3L?

The exact combination table pairs CPCR-FR01RB-T3L with the UGTMEM-03LB servomotor. The documented operating data are 46.8 W effective output, 1000 rpm rated speed, 4.56 kg-cm effective torque and 4.4 A effective current.

What maximum drive speed is published for YASKAWA CPCR-FR01RB-T3L?

The maximum-drive-speed table lists 1700 rpm for the CPCR-FR01RB-T3L and UGTMEM-03LB combination, compared with a rated motor speed of 1000 rpm.

Which current limits apply to YASKAWA CPCR-FR01RB-T3L?

The exact option table gives an 8 A instantaneous maximum current when shipped, with limitation M. The FR01RB Servopack family specification separately lists 12 A +/-10% instantaneous maximum output and 5.6 A at 30 V continuous output.

What input supply is specified for YASKAWA CPCR-FR01RB-T3L?

The Servopack uses a separately supplied transformer. The family specification accepts single-phase 100/200 V AC at 50 Hz or 110/220 V AC at 60 Hz, each within +/-10%, with a published transformer-capacity range of 150-300 VA.

What reference and feedback signals are used by YASKAWA CPCR-FR01RB-T3L?

Rated speed corresponds to a +/-6 V reference input. The auxiliary input is adjustable from +/-2 V to +/-10 V, and the T3 option identifies 3 V/1000 rpm tachogenerator feedback.

What cooling rule applies to multiple YASKAWA CPCR-FR01RB-T3L units?

A single FR01 unit is naturally cooled. When three or more FR01 units are installed together, the manual requires forced cooling with air velocity of 2 m/s.

What environmental limits apply to YASKAWA CPCR-FR01RB-T3L?

The published limits are 0 to +55 deg C operating temperature, -20 to +70 deg C storage temperature, 85% maximum humidity without condensation and 0.5 G maximum vibration.

Which protective functions must be checked on YASKAWA CPCR-FR01RB-T3L?

The documented protective functions include forward and reverse overtravel base-off, external base-off, overload, overcurrent, heat-sink overheat and blown-fuse detection. The manual also warns that the built-in overload circuit is not complete motor protection.

Catalogue and contact

Eight verified product links / navigation only, not approved substitutes

BRAND + MODEL	RELATION	PRODUCT LINK
YASKAWA MV1000 YPHS31122-1D 7910161-30400-S0104	YASKAWA drive catalogue	Explore YASKAWA MV1000 YPHS31122-1D 7910161-30400-S0104 page
YASKAWA CIMR-PCA20P7	YASKAWA drive catalogue	Explore YASKAWA CIMR-PCA20P7 page
YASKAWA CIMR-V7AM20P2	YASKAWA drive catalogue	Explore YASKAWA CIMR-V7AM20P2 page
YASKAWA HI-35E	YASKAWA control catalogue	Explore YASKAWA HI-35E page
YASKAWA JEFMC-C023X-09G	YASKAWA motion catalogue	Explore YASKAWA JEFMC-C023X-09G page
YASKAWA CPS-150F	YASKAWA power catalogue	Explore YASKAWA CPS-150F page
ABB INICT13	ABB control catalogue	Explore ABB INICT13 page
Bently Nevada 330901-00-08-05-11-05	Machinery-monitoring catalogue	Explore Bently Nevada 330901-00-08-05-11-05 page

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YASKAWA
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Technical source: Yaskawa CPCR-FR_RB Servo User Manual TSE-C717-10.1, Revision D; printed pages 5-16. Commercial fields supplied by Apter Power.

The reference manual supplies the technical evidence. Catalogue links are navigation aids and do not imply compatibility.