

APTER POWER

COMPLETE PRODUCT INFORMATION

TLC511F

TLC511F Twin Line Positioning Controller

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PRODUCT SNAPSHOT

BRAND

Berger Lahr

FAMILY

Berger Lahr Twin Line Controller

PART

TLC511F

DOCUMENT STATUS

Controlled engineering copy

APTER POWER

WHATSAPP / PHONE

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WEBSITE

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PRODUCT OVERVIEW

Berger Lahr TLC511F provides stepper-motor positioning and controlled machine-axis motion for a documented Berger Lahr Twin Line Controller 51x installation.

TLC511 stepper positioning control

0.35 kW and 3 Arms motor output class

20 to 30 V DC control supply

Configurable encoder and fieldbus modules

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1 ABB DSTD110A	2 ABB 3BHE022294R0101-GFD233-A101	3 ABB DSQC332
4 ABB 3BHE022293R0101-PCD232A	5 ABB 3HAC5954-1	6 ABB 3HAC043569-004
7 ABB PM590-ETH-1SAP150000R0271	8 General Electric DS200SDCIG1AFB	9 General Electric IS400JPDHG1A

SYSTEM COMPONENTS

DOCUMENTED COMPONENT	ROLE IN SYSTEM
Proximity probe	Matched extension cable
Proximitor Sensor	AISI 4140 target

ENGINEERING CONTEXT

The component remains matched to its documented host position, connections and approved configuration. Commissioning restores that architecture and verifies the intended function under controlled conditions.

TECHNICAL DATA

PARAMETER	VALUE
Product type	Twin Line positioning controller
Controller family	TLC51x
Referenced base model	TLC511
Application	Stepper-motor positioning
Mains voltage	1 x 230 V AC, -20% / +15%
Mains frequency	47 to 63 Hz
Current consumption	2 A at 230 V AC
Starting current	Less than 60 A
Power factor	Greater than 0.6
Power loss	40 W maximum
Mains buffering	Less than 5 ms
External fuse	10 A, characteristic C, K or similar
Motor power class	0.35 kW
Switching frequency	16 kHz
Rated motor current	3 Arms
Maximum motor speed	3000 rpm

PARAMETER	VALUE
Maximum documented motor-cable length	20 m
Control supply	24 V DC PELV, reverse-polarity protected
Control-supply range	20 to 30 V DC
Control-supply ripple	Less than 2 V peak-to-peak
Control input current	Less than 2.5 A without output loading
Digital input high level	12 to 30 V DC at 3 mA minimum
Digital input low level	5 V DC maximum at 0.5 mA maximum
Digital output current	400 mA maximum
Analogue input	+10 V to -10 V, 5 kohm input resistance
Ambient temperature	0 to 50 degC
Relative humidity	15% to 85%, non-condensing
Degree of protection	IP20
RS422-C encoder input frequency	400 kHz maximum
RS485-C transmission rates	1200 to 38400 baud
PBDP-C transmission rate	12 Mbaud maximum
CAN-C transmission rate	1 Mbaud maximum

TECHNICAL NOTE

Install TLC511F only in the documented Berger Lahr Twin Line Controller 51x position and preserve its exact wiring, interfaces and configuration. After controlled energization, verify diagnostics and stepper-motor positioning and controlled machine-axis motion before service release.

APPLICATIONS & PRECAUTIONS

COMMON APPLICATIONS

Stepper-axis positioning

Controls a documented TLC511-compatible motor and positioning sequence.

Automated machine motion

Uses signal-interface inputs, outputs and ENABLE control for the approved machine cycle.

Encoder-referenced motion

Accepts the documented RS422 encoder arrangement for position feedback.

Fieldbus-controlled axis

Supports documented RS485, PROFIBUS DP or CAN module configurations when fitted.

PRODUCT PRECAUTIONS

1

Confirm TLC511F, the TLC511 base execution and installed option modules.

2

Place the machine axis and power amplifier in the approved maintenance state.

3

Isolate mains, 24 V control and motor energy before disconnecting cables.

4

Record motor data, phase-current setting, encoder and fieldbus configuration.

5

Verify protective earth, mains fuse and 20 to 30 V DC control supply.

6

Keep motor-cable length within the documented 20 m limit unless separately approved.

7

Restore ENABLE, limit switches, encoder and communication wiring.

8

Run the function test with the motor decoupled, then verify controlled positioning response.

RELATED APTER POWER PAGES

1

ABB DSTD110A

2

ABB
3BHE022294R0101-GFD233-A101

3

ABB DSQC332

4

ABB 3BHE022293R0101-PCD232A

5

ABB 3HAC5954-1

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8

General Electric DS200SDCIG1AFB

9

General Electric IS400JPDHG1A

ENGINEER FAQ

Q1 What stepper-axis motion-control role does Berger Lahr TLC511F perform?

It is a TLC511-family Twin Line positioning controller for stepper-motor axes.

Q2 Which single-phase mains supply is documented for Berger Lahr TLC511F?

The standard TLC511 uses single-phase 230 V AC at 47 to 63 Hz within the documented tolerance.

Q3 Which rated power, motor current and switching frequency apply to Berger Lahr TLC511F?

The TLC511 base data specifies 0.35 kW, 3 Arms rated current and 16 kHz switching.

Q4 Which reverse-polarity-protected PELV control supply is required by Berger Lahr TLC511F?

Use reverse-polarity-protected 24 V DC PELV within 20 to 30 V DC.

Q5 How does the +10 V to -10 V analogue input operate on Berger Lahr TLC511F?

The signal interface provides a +10 V to -10 V analogue input with 5 kohm resistance.

Q6 Which IP20, temperature and humidity limits govern Berger Lahr TLC511F?

Operate the IP20 controller from 0 to 50 degC at 15% to 85% non-condensing humidity.

Q7 Which RS422, RS485, PROFIBUS DP and CAN option interfaces are documented for Berger Lahr TLC511F?

The manual describes RS422 encoder, RS485, PROFIBUS DP and CAN modules when fitted.

Q8 How should the motor-decoupled initial positioning test be performed on Berger Lahr TLC511F?

Keep the motor decoupled, verify phase-current settings and ENABLE state, then test controlled positioning.

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SOURCE Twin Line Controller 51x Manual 9844 1113 117, edition c325, 11.00 | User-authorized Scribd copy of Berger Lahr manual

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