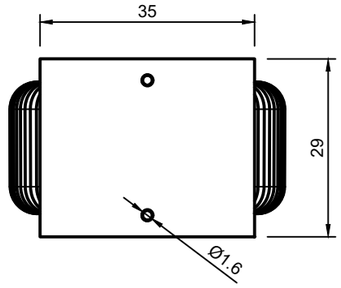
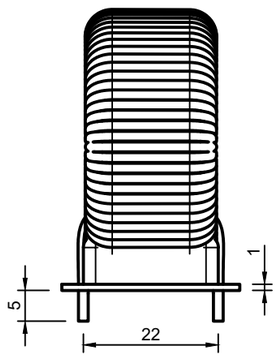
DIMENSSIONS & PROJECTION

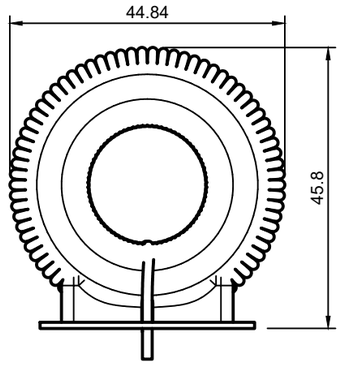
Bottom View



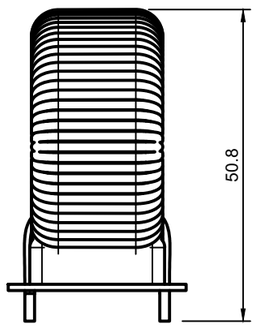
Right View



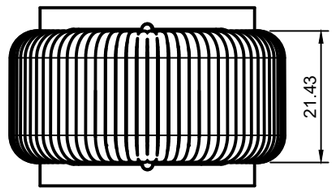
Front View



Left View



Top View



SCHEMATIC

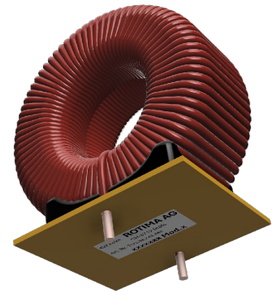


DESCRIPTION

This toroidal inductor from Rotima AG is a power inductor designed for energy storage, current smoothing and filtering in power electronic circuits.

The toroidal core provides a closed magnetic path with low external magnetic field radiation, making the component well suited for compact power electronic applications.

With a nominal inductance of 1.0 mH and a continuous current rating of 10 A, the component is suitable for power supplies, DC power systems, motor drives and other industrial power conversion applications.



ELECTRICAL SPECIFICATIONS

Parameter	Symbol	Value	Unit	Tolerance
Core type	-	R40/24/16 Core		
Winding	N	78 turns		
Inductance	L	1.0 ±15%	mH	typ.
Saturation flux density	B_{sat}	315	mT	max.
RMS saturation current @20 %	$I_{sat,\ RMS}$	1.65	A	max.
Rated current	I_r	10	A	typ.
DC resistance	R_{DC}	73	mΩ	max.
Total loss (maximum)		9.6	W	max.
Stored energy	E	50	mJ	typ.
Rated temperature	T_r	+60	°C	typ.
Operating temperature range	T	–20 … +125	°C	typ.

TEST RESULTS

Parameter	Symbol	Test Conditions	Value	Unit	Tolerance
Inductance	L	1 kHz, 250 mV	1.0	mH	typ.
Saturation current	I_{sat}	|ΔL/L| < 20 %	1.65	A	typ.
DC resistance	R_{DC}		38.95	mΩ	typ.
Dielectric strength (N - Core)	-	1.5 kV AC, 50 Hz, 10s	<0.1	mA	typ.

AREAS OF APPLICATION

- AC/DC power supplies
- DC power systems
- Industrial automation
- Motor drives and power electronics
- Communication and electronic equipment

Rev.	Revision note	Date of issue	Name
0.1	First release	23.09.2026	OAK

Standard | Cust. drawing no

Prepared 10.09.2026 Oyebola Akinboyewa

Approved 23.09.2026 Lukas Schmieden

Part No. T400.10.003.002

Title: Toroidal Inductor Based on R40/24/16 1 mH, 10 A

Dept.: Engineering

DWG No.: LQ-DMD157004

ROTIMA ALWAYS ON

Customer ref No.

Rev ID | Language EN

First angle projection | Scale 1:1 | Sheet 1/2

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PRECAUTIONS AND WARNINGS

General:

- This electronic component has been designed and manufactured for use in general electronic equipment.
- The component has been designed and manufactured for use within the values specified in the data sheet. Failure to comply with the application and operating conditions specified in the data sheet may result in damage to or dissolution of the wire insulation.
- Do not drop the components or subject them to impact, as this may damage them.
- Rotima AG products are qualified in accordance with international standards, which are listed in each product reliability report. Rotima AG does not guarantee the validity and sustainability of product features that exceed Rotima's specifications.

Storage conditions:

- Storing Rotima AG products for more than 12 months is not recommended. Among other things, this can lead to deterioration of the connections, resulting in poor solderability. Therefore, all products should be used within 12 months of the date of shipment.
- Do not expose the components to direct sunlight.
- The storage conditions in the original packaging are defined in accordance with DIN EN 61760-2.
- The storage conditions specified in the original packaging apply to the storage period and not to the transport time of the components.

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Sheet 2/2

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