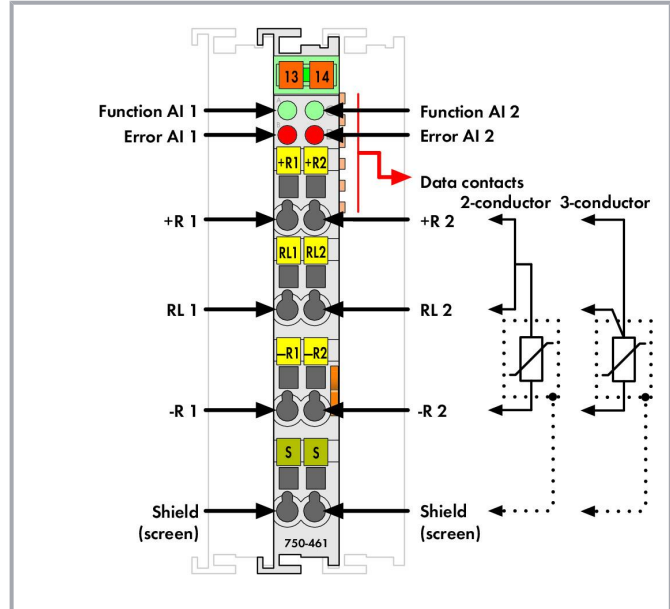


Data sheet | Item number: 750-461/020-000
2-channel analog input; For NTC 20k resistance sensors

www.wago.com/750-461/020-000



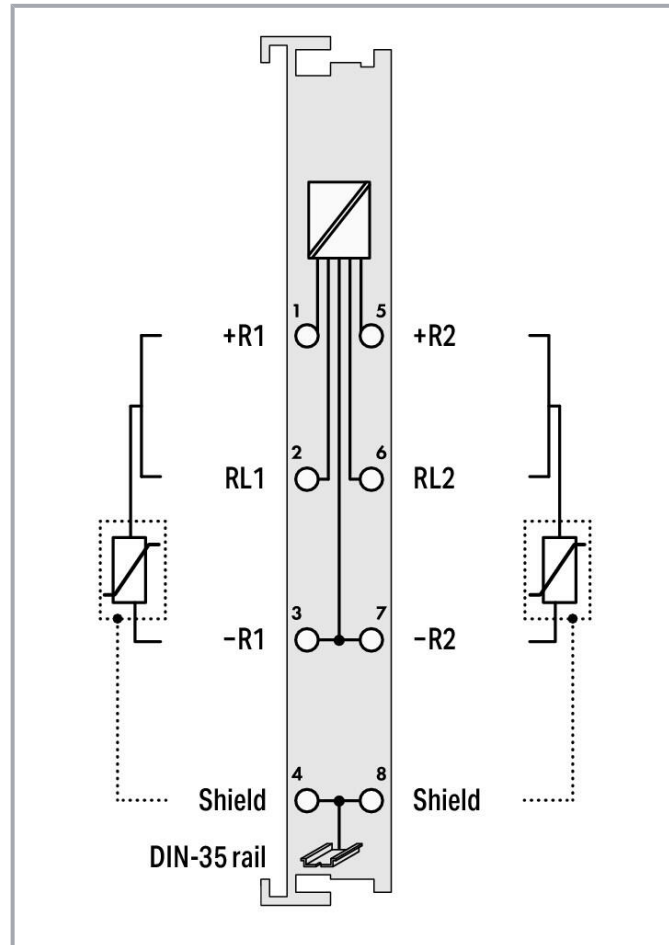
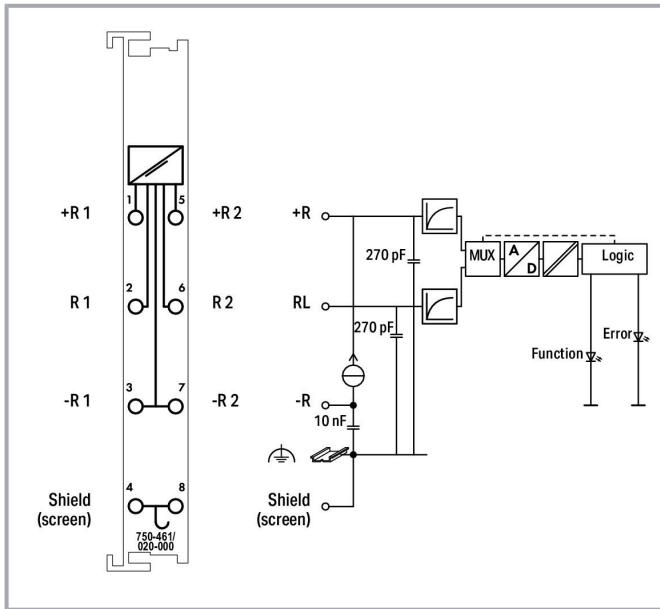
Color: —



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Item description

This analog input module directly connects to NTC sensors.

Two- or three-wire sensors can be connected.

The module automatically linearizes the entire temperature range. A sensor error (short circuit, line break or measurement range overflow) is indicated by a red LED.

A green LED indicates readiness for operation and error-free communication with the coupler.

The shield directly connects to the DIN-rail.

Data

Technical data

Number of analog inputs

2

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Total number of channels (module)	2
Signal type	Resistance measurement
Sensor connection	2 x (2-wire)
Data width	2 x 16-bit data; 2 x 8-bit control/status (optional)
Resolution (over entire range)	0.1 °C
Conversion time (typ.)	320 ms
Measurement error (25 °C)	0.5 ... 3.0 K (temperature-dependent)
Temperature error (max.) of the upper-range value	0.002 %/K
Measuring current (typ.)	0.05 mA
Response time (max.)	4 s
Sensor types	NTC 20 kOhm
Temperature range	-30 ... +130 °C
Supply voltage (system)	5 VDC; via data contacts
Current consumption (5 V system supply)	65 mA
Isolation	500 V system/field
Indicators	LED (A, C) green: Function AI 1, AI 2; LED (B, D) red: Error AI 1, AI 2

Connection data

Connection technology: inputs/outputs	8 x CAGE CLAMP®
Connection type 1	Inputs/Outputs
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 14 AWG
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 14 AWG
Strip length	8 ... 9 mm / 0.31 ... 0.35 inches

Physical data

Width	12 mm / 0.472 inches
Height	100 mm / 3.937 inches
Depth	69.8 mm / 2.748 inches
Depth from upper-edge of DIN-rail	62.6 mm / 2.465 inches

Mechanical Data

Mounting type	DIN-35 rail
---------------	-------------

Material Data

Color	light gray
Housing material	Polycarbonate; polyamide 6.6

Subject to changes. Please also observe the further product documentation!



Fire load	1 MJ
Weight	51.5 g
Conformity marking	CE

Environmental requirements

Ambient temperature (operation)	0 ... +55 °C
Ambient temperature (storage)	-25 ... +85 °C
Protection type	IP20
Pollution degree	2 per IEC 61131-2
Operating altitude	0 ... 2000 m / 0 ... 6562 ft
Mounting position	horizontal (standing/lying); vertical
Relative humidity (without condensation)	95 %
Vibration resistance	4g per IEC 60068-2-6
Shock resistance	15g per IEC 60068-2-27
EMC immunity to interference	per EN 61000-6-2, marine applications
EMC emission of interference	per EN 61000-6-4, marine applications
Exposure to pollutants	Per IEC 60068-2-42 and IEC 60068-2-43
Permissible H ₂ S contaminant concentration at a relative humidity 75 %	10 ppm
Permissible SO ₂ contaminant concentration at a relative humidity 75 %	25 ppm

Commercial data

Product Group	15 (I/O System)
eCl@ss 10.0	27-24-26-01
eCl@ss 9.0	27-24-26-01
ETIM 8.0	EC001596
ETIM 7.0	EC001596
PU (SPU)	1 pcs
Packaging type	box
Country of origin	DE
GTIN	4045454408046
Customs tariff number	85389099990

Environmental Product Compliance





CAS-No.	7439-92-1
REACH Candidate List Substance	Lead

Subject to changes. Please also observe the further product documentation!

RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	6(c) 7(a) 7(c)-I 7(c)-II
SCIP notification number (Austria)	20315c01-7772-43a2-b9c6-39119ef59a9a
SCIP notification number (Belgium)	4f6e8d85-eaec-43f8-b85d-7985d5986d11
SCIP notification number (Bulgaria)	d5fda3f6-4d50-4f36-8361-f162a6ce198a
SCIP notification number (Czech Republic)	208acdf4-d74b-44c9-ab7d-1f0486cdf689
SCIP notification number (Denmark)	52af5c90-f5c6-4d4e-aa3a-b8995dff484
SCIP notification number (Finland)	958052b6-de08-4e27-a7ec-85f04989cab2
SCIP notification number (France)	a05ba135-10ed-4514-b786-af16f05d92ce
SCIP notification number (Germany)	a78bf884-ca80-46ac-9805-af484372ba9a
SCIP notification number (Hungary)	f6402f41-b3fa-46f1-93b7-dd22477bd451
SCIP notification number (Italy)	429a6bd6-9c56-4f08-a041-e1243ed80ac6
SCIP notification number (Netherlands)	24489d36-acda-4a07-841a-4857499bd6be
SCIP notification number (Poland)	019e7a17-91e2-43cf-adea-9fc305e7b35c
SCIP notification number (Romania)	cd3c56c7-0af7-423a-ae45-1a09189220e6
SCIP notification number (Sweden)	07e81fe7-7a85-47de-ac7b-93299efb1c0f

Approvals / Certificates

General approvals

Logo	Approval	Additional Approval Text	Certificate name
	CCC CNEX	CNCA-C23-01	2020312310000213 (Ex ec IIC T4 Gc)
	EAC Brjansker Zertifizierungsstelle	TP TC 020/2011	EAC RU C-DE.AM02. B.00087/19
	KC National Radio Research Agency	Article 58-2, Clause 3	MSIP-REM-W43- AIM750
	UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 508	E175199 Sec.1

Declarations of conformity and manufacturer's declarations

Logo	Approval	Additional Approval Text	Certificate name

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EU-Declaration of Conformity
WAGO GmbH & Co. KG

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UK-Declaration of Conformity
WAGO GmbH & Co. KG

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Approvals for marine applications

Logo	Approval	Additional Approval Text	Certificate name
	ABS American Bureau of Shipping	-	22-2219060
	BSH Bundesamt fuer Seeschifffahrt und Hydrographie	-	1104
	BV Bureau Veritas S.A.	-	13453/E0 BV
	DNV DNV GL SE	DNV-CG-0339, Aug. 2021	TAA0000194
	KR Korean Register of Shipping	-	KR HMB05880-AC001
	LR Lloyds Register EMEA	-	LR22180952TA
	PRS Polski Rejestr Statków	-	TE/2236/880590/19
	RINA RINA Germany GmbH	-	ELE343521XG001

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Approvals for hazardous areas

Logo	Approval	Additional Approval Text	Certificate name
	ATEX TUEV Nord Cert GmbH	EN 60079-0	TUEV_14_ATEX_148929_X (II 3 G Ex ec IIC T4 Gc)
	CCC CNEX	CNCA-C23-01	2020312310000213 (Ex ec IIC T4 Gc)
	EAC Brjansker Zertifizierungsstelle	TP TC 012/2011	EAC RU C-DE.AM02.B.00163 /19 (2Ex nA IIC T4 Gc X)
	IECEX TUEV Nord Cert GmbH	IEC 60079-0	IECEX TUN 14.0035 X (Ex ec IIC T4 Gc)
	INMETRO TÜV Rheinland do Brasil Ltda.	IEC 60079-0	BR-Ex_TÜV 12.1297 X
	UKEx WAGO GmbH & Co. KG	EN 60079-0	UKCA_WAGO22UKEX003X_ec
	UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	UL 121201	E198726 Sec.1

Optional accessories

System housing

System enclosure

	Item no.: 850-814/002-000 IP65 enclosure; Sheet steel (RAL 7035); WxHxD (200x120x200 mm); without flange plate	www.wago.com/850-814/002-000
	Item no.: 850-815/002-000 IP65 enclosure; Sheet steel (RAL 7035); WxHxD (300x120x200 mm); without flange plate	www.wago.com/850-815/002-000

Subject to changes. Please also observe the further product documentation!



Item no.: 850-816/002-000
IP65 enclosure; Sheet steel (RAL 7035); WxHxD (400x120x200 mm); without flange plate

www.wago.com/850-816/002-000



Item no.: 850-817/002-000
IP65 enclosure; Sheet steel (RAL 7035); WxHxD (600x120x200 mm); without flange plate

www.wago.com/850-817/002-000



Item no.: 850-825
IP65 enclosure; Aluminium (RAL 7032); WxHxD (160x100x160 mm); 9 x M12, 4 x M20

www.wago.com/850-825



Item no.: 850-826
IP65 enclosure; Aluminium (RAL 7032); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip

www.wago.com/850-826



Item no.: 850-827
IP65 enclosure; Aluminium (RAL 7032); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip

www.wago.com/850-827



Item no.: 850-827/002-000
IP65 enclosure; Aluminium (RAL 7035); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip

www.wago.com/850-827/002-000



Item no.: 850-826/002-000
IP65 enclosure; Aluminium (RAL 7035); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip

www.wago.com/850-826/002-000



Item no.: 850-828/002-000
IP65 enclosure; Aluminium (RAL 7035); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip

www.wago.com/850-828/002-000



Item no.: 850-828
IP65 enclosure; Aluminium (RAL 7032); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip

www.wago.com/850-828



Item no.: 850-834
IP65 enclosure; Polyester (RAL 7032); WxHxD (164x100x164 mm); 9 x M12, 4 x M20

www.wago.com/850-834



Item no.: 850-835
IP65 enclosure; Polyester (RAL 7032); WxHxD (244x100x164 mm); 4 x M20, 4 x M16, 14 x M12 cable grip

www.wago.com/850-835



Item no.: 850-836
IP65 enclosure; Polyester (RAL 7032); WxHxD (324x100x164 mm); 4 x M20, 8 x M16, 17 x M12 cable grip

www.wago.com/850-836

Carrier rail

Mounting accessories



Item no.: 210-197
Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715; silver-colored

www.wago.com/210-197



Item no.: 210-198
Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; copper-colored

www.wago.com/210-198

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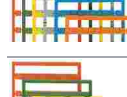

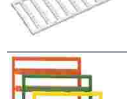
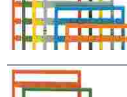
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	Item no.: 210-504 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715; silver-colored	www.wago.com/210-504
	Item no.: 210-505 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according to EN 60715; silver-colored	www.wago.com/210-505
	Item no.: 210-506 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715; silver-colored	www.wago.com/210-506
	Item no.: 210-508 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715; silver-colored	www.wago.com/210-508
	Item no.: 210-113 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored	www.wago.com/210-113
	Item no.: 210-118 Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored	www.wago.com/210-118
	Item no.: 210-112 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 25 mm; silver-colored	www.wago.com/210-112
	Item no.: 210-114 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored	www.wago.com/210-114
	Item no.: 210-115 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 18 mm; silver-colored	www.wago.com/210-115
	Item no.: 210-196 Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored	www.wago.com/210-196

Marking accessories

Marker carrier		
	Item no.: 750-103 Group marker carrier	www.wago.com/750-103
Marker		
	Item no.: 2009-145/000-006 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; blue	www.wago.com/2009-145/000-006
	Item no.: 2009-145 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white	www.wago.com/2009-145
	Item no.: 2009-145/000-002 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; yellow	www.wago.com/2009-145/000-002

Subject to changes. Please also observe the further product documentation!

	Item no.: 2009-145/000-007 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; gray	www.wago.com/2009-145/000-007
	Item no.: 2009-145/000-005 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; red	www.wago.com/2009-145/000-005
	Item no.: 2009-145/000-012 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; orange	www.wago.com/2009-145/000-012
	Item no.: 2009-145/000-023 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; green	www.wago.com/2009-145/000-023
	Item no.: 2009-145/000-024 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; violet	www.wago.com/2009-145/000-024
	Item no.: 248-501/000-006 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; blue	www.wago.com/248-501/000-006
	Item no.: 248-501/000-007 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; gray	www.wago.com/248-501/000-007
	Item no.: 248-501/000-002 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; yellow	www.wago.com/248-501/000-002
	Item no.: 248-501/000-012 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; orange	www.wago.com/248-501/000-012
	Item no.: 248-501 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white	www.wago.com/248-501
	Item no.: 248-501/000-017 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; light green	www.wago.com/248-501/000-017
	Item no.: 248-501/000-005 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; red	www.wago.com/248-501/000-005

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Item no.: 248-501/000-024
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; violet

www.wago.com/248-501/000-024



Item no.: 248-501/000-023
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; green

www.wago.com/248-501/000-023



Item no.: 750-100
Marker card; as a DIN A4 sheet; plain

www.wago.com/750-100

Group marker carrier



Item no.: 750-106
Group marker carrier

www.wago.com/750-106

Shield termination

Shield clamping saddles



Item no.: 790-116
Shield clamping saddle; 19 mm wide; diameter of compatible conductor; 7 ... 16 mm

www.wago.com/790-116



Item no.: 790-124
Shield clamping saddle; 27 mm wide; diameter of compatible conductor; 6 ... 24 mm

www.wago.com/790-124



Item no.: 790-108
Shield clamping saddle; 11 mm wide; diameter of compatible conductor; 3 ... 8 mm

www.wago.com/790-108



Item no.: 790-140
Shield clamping saddle; diameter of compatible conductor

www.wago.com/790-140



Item no.: 790-216
Shield clamping saddle; 21.8 mm wide; 6 ... 16 mm

www.wago.com/790-216



Item no.: 790-220
Shield clamping saddle; 30 mm wide; 6 ... 20 mm

www.wago.com/790-220



Item no.: 790-208
Shield clamping saddle; 12.4 mm wide; 3 ... 8 mm

www.wago.com/790-208

Downloads

Documentation

Manual

System Manual WAGO I/O System 750/753 Decentralized Automation Technology	V 3.3.0 2023 May 4	pdf 8.8 MB	Download
Product Manual 2-channel Analog Input for Resistance Sensors	V 1.4.1	pdf	Download

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PT100 / RTD			3.0 MB	
System Manual Series 750/753 Online HTML			URL	Download
Bid Text				
750-461/020-000 X81 - Datei	2019 Feb 19		xml 4.6 kB	Download
750-461/020-000 doc - Datei	2017 Oct 20		doc 29.7 kB	Download
Instruction Leaflet				
CCC Ex (Additional information) WAGO-I/O-SYSTEM *750-****/*	2023 Apr 26		pdf 163.6 kB	Download
System Description				
Overview on WAGO-I/O-SYSTEM 750 approvals			pdf 789.0 kB	Download
750/753 Series I/O-System – General Product Information			pdf 1.7 MB	Download
Additional Information				
Disposal and Recycling Electrical and electronic equipment, Batteries, Packaging	V 1.1.0 2022 Aug 18		pdf 2.2 MB	Download
CAD/CAE-Data				
CAD data				
2D/3D Models 750-461/020-000			URL	Download
CAE data				
EPLAN Data Portal 750-461/020-000			URL	Download
WSCAD Universe 750-461/020-000			URL	Download
ZUKEN Portal 750-461/020-000			URL	Download

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WSCAD Universe 750-461/020-000

[URL](#)

[Download](#)

EPLAN Data Portal 750-461/020-000

[URL](#)

[Download](#)

Device Files

Device Driver

WAGO USB Service Kabel Treiber / Serie 750 und 857

6.5.3.0

2014 Sep 10

zip

4.8 MB

[Download](#)

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 750-461/020-000

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2-channel analog input; For NTC 20k resistance sensors

Installation Notes

Product family

WAGO I/O System 750/753

[Show all products from the family](#)

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