PHŒNIX CONTACT

Electronic device circuit breaker - PTCB E1 24DC/1-8A NO - 2908262

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Single-channel electronic circuit breaker for protecting 24 V DC loads against overload and short circuit. Simple potential distribution using components from the CLIPLINE complete terminal block system. With electronic locking of the set nominal currents. For installation on DIN rails.

Why buy this product

☑ Simple application setup due to bridging option to CLIPLINE complete terminal block system

☑ More space in the control cabinet: narrowest protection on just 6 mm width

☑ Flexible use and reduction of inventory due to adjustable amp values on each device for wide range of applications

☑ Individual setup for suitable protection, exactly according to your requirements

RoHS

Key Commercial Data

Packing unit	1 STK
GTIN	4 055626 323763
GTIN	4055626323763
Weight per Piece (excluding packing)	27.640 g
Custom tariff number	85363010
Country of origin	Germany

Technical data

Dimensions

Height	105.8 mm
Width	6.2 mm
Depth	55.6 mm

Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Humidity test	96 h, 95% RH, 40°C
Altitude	≤ 2000 m (amsl (above mean sea level))
Shock (operation)	30g (IEC 60068-2-27, Test Ea)

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Technical data

Ambient conditions

Degree of protection	IP20

General

Flammability rating according to UL 94	V-0
Mounting type	DIN rail: 35 mm
Color	traffic grey A RAL 7042
Protection class	III
Type	DIN rail module, one-piece

Electrical data

Fuse type	electronic
Rated surge voltage	0.5 kV
Operating voltage	18 V DC ... 30 V DC
Rated voltage	24 V DC
Rated current I_N	24 A DC (Total current input)
	8 A DC (Channel current output)
Measuring tolerance I	typ. 15 %
Rated insulation voltage U_i	33 V (Load circuit)
Feedback resistance	max. 35 V DC
Fail-safe element	15 A DC (per output channel)
Efficiency	> 99 %
Closed circuit current I_0	typ. 12 mA
Power dissipation	typ. 0.3 W (No-load operation)
	< 1.6 W (Nominal operation)
Module initialization time	1 s
Waiting time after switch off of a channel	5 s (of overload / short circuit)
Temperature derating	21 A (Total current at 60°C)
	24 A (Total current at 50°C)
	7 A (Channel current at 60°C)
	8 A (Channel current at 50°C)
Tripping method	E (electronic)
Required backup fuse	not required, integrated failsafe element
Dielectric strength	max. 35 V DC (Load circuit)
Voltage drop	0.13 V
Contact type	without electrical isolation
MTBF (IEC 61709, SN 29500)	25641025 h (at 25°C with 21% load)
	10989010 h (at 40°C with 34.25% load)
	1149425 h (at 60°C with 100% load)
Shutdown time load circuit	$\leq$ 10 ms (for short circuit > 2.0 x I_N)
	1 s (1.2 ... 2.0 x I_N)
Undervoltage shutdown load circuit	$\leq$ 17.8 V DC (active)

PHŒNIX CONTACT

Electronic device circuit breaker - PTCB E1 24DC/1-8A NO - 2908262

Technical data

Electrical data

	$\geq$ 18.8 V DC (inactive)
Surge voltage shutdown load circuit	$\geq$ 30.5 V DC (active)
	$\leq$ 29.5 V DC (inactive)
Max. capacitive load load circuit	35000 µF (Depending on the current setting and the short-circuit current available)

Connection data

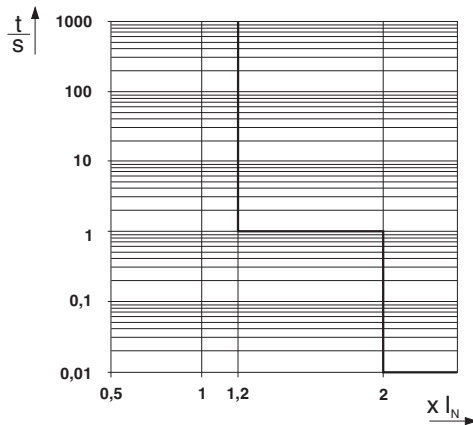|	
Connection name	Main circuit IN+
Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section solid	0.2 mm² ... 4 mm²
Conductor cross section AWG	24 ... 12
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.2 mm² ... 2.5 mm²
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm² ... 2.5 mm²
Connection name	Main circuit IN-
Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section solid	0.2 mm² ... 4 mm²
Conductor cross section AWG	24 ... 12
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.2 mm² ... 2.5 mm²
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm² ... 2.5 mm²
Connection name	Main circuit OUT
Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section solid	0.2 mm² ... 4 mm²
Conductor cross section AWG	24 ... 12
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.2 mm² ... 2.5 mm²
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm² ... 2.5 mm²

Standards and Regulations

Standards/specifications	EN 61000-6-2
	EN 61000-6-3
	EN 60068-2-78
	EN 50178
	EN 60068-2-6
	EN 60068-2-27
	UL 508
	UL 2367

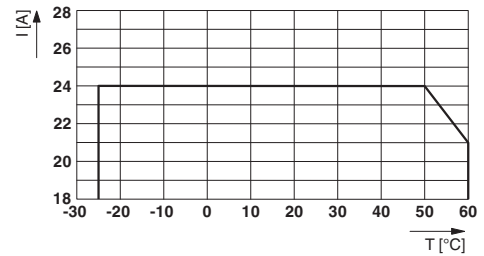## Drawings

Electronic device circuit breaker - PTCB E1 24DC/1-8A NO - 2908262

Diagram

Trigger characteristic in the DC range

Diagram

Total current input

Diagram

Channel current output
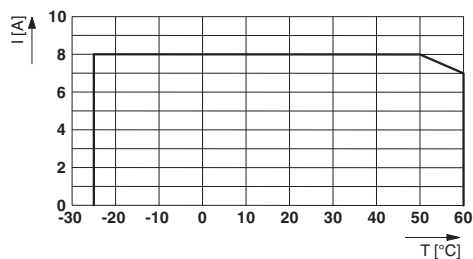
Dimensional drawing
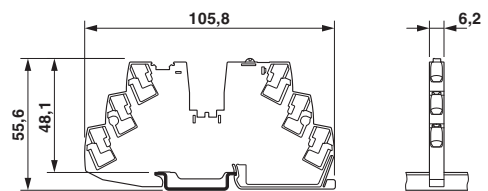
Classifications

eCl@ss

eCl@ss 8.0	27141116
eCl@ss 9.0	27141116

ETIM

ETIM 5.0	EC000899

Approvals

Approvals

Approvals

UL Recognized / UL Listed / cUL Listed / cULus Listed

Ex Approvals

PHŒNIX CONTACT

Electronic device circuit breaker - PTCB E1 24DC/1-8A NO - 2908262

Approvals

Approval details

UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 317172

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528

cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528

cULus Listed	

Accessories

Accessories

Device protection

Type 3 surge protection device - TTC-6P-T3-24DC-PT-I - 1027586

Type 3 surge protection, consisting of protective plug and base element, with integrated status indicator for 24 V DC power supplies.

Feed-through terminal block

Feed-through terminal block - PT 4 - 3211757

Feed-through terminal block, nom. voltage: 800 V, nominal current: 32 A, connection method: Push-in connection, number of connections: 2, cross section:0.2 mm² - 6 mm², AWG: 24 - 10, width: 6.2 mm, height: 35.3 mm, color: gray, mounting type: NS 35/7,5, NS 35/15

Electronic device circuit breaker - PTCB E1 24DC/1-8A NO - 2908262

Accessories

Feed-through terminal block - ST 4 - 3031364

Feed-through terminal block, nom. voltage: 800 V, nominal current: 32 A, connection method: Spring-cage connection, number of connections: 2, cross section:0.08 mm² - 6 mm², AWG: 28 - 10, width: 6.2 mm, color: gray, mounting type: NS 35/7,5, NS 35/15

Feed-through terminal block - QTC 2,5 - 3206416

Feed-through terminal block, nom. voltage: 800 V, nominal current: 24 A, connection method: Quick connection, number of connections: 2, cross section:0.5 mm² - 2.5 mm², AWG: 20 - 14, width: 6.2 mm, color: gray, mounting type: NS 35/7,5, NS 35/15

Feed-through terminal block - PT 2,5 - 3209510

Feed-through terminal block, nom. voltage: 800 V, nominal current: 24 A, connection method: Push-in connection, number of connections: 2, number of positions: 1, cross section:0.14 mm² - 4 mm², AWG: 26 - 12, width: 5.2 mm, height: 35.3 mm, color: gray, mounting type: NS 35/7,5, NS 35/15

Feed-through terminal block - ST 2,5 - 3031212

Feed-through terminal block, nom. voltage: 800 V, nominal current: 24 A, connection method: Spring-cage connection, number of connections: 2, cross section:0.08 mm² - 4 mm², AWG: 28 - 12, width: 5.2 mm, color: gray, mounting type: NS 35/7,5, NS 35/15

Fast connection terminal block - QTC 1,5 - 3205019

Fast connection terminal block, nom. voltage: 800 V, nominal current: 17.5 A, connection method: Quick connection, number of connections: 2, cross section:0.25 mm² - 1.5 mm², AWG: 24 - 16, width: 5.2 mm, color: gray, mounting type: NS 35/7,5, NS 35/15

Electronic device circuit breaker - PTCB E1 24DC/1-8A NO - 2908262

Accessories

Feed-through terminal block - PT 10 - 3212120

Feed-through terminal block, nom. voltage: 1000 V, nominal current: 57 A, connection method: Push-in connection, number of connections: 2, cross section:0.5 mm² - 16 mm², AWG: 20 - 6, width: 10.2 mm, height: 49.5 mm, color: gray, mounting type: NS 35/7,5, NS 35/15

Feed-through terminal block - ST 10 - 3036110

Feed-through terminal block, nom. voltage: 1000 V, nominal current: 57 A, connection method: Spring-cage connection, number of connections: 2, cross section:0.2 mm² - 16 mm², AWG: 24 - 6, width: 10.2 mm, color: gray, mounting type: NS 35/7,5, NS 35/15

Jumper

Plug-in bridge - FBS 2-6 - 3030336

Plug-in bridge, pitch: 6.2 mm, width: 10.7 mm, number of positions: 2, color: red

Plug-in bridge - FBS 3-6 - 3030242

Plug-in bridge, pitch: 6.2 mm, width: 16.9 mm, number of positions: 3, color: red

Plug-in bridge - FBS 4-6 - 3030255

Plug-in bridge, pitch: 6.2 mm, width: 23.1 mm, number of positions: 4, color: red

![Phoenix Contact logo]

Electronic device circuit breaker - PTCB E1 24DC/1-8A NO - 2908262

Accessories

Plug-in bridge - FBS 5-6 - 3030349

Plug-in bridge, pitch: 6.2 mm, width: 29.3 mm, number of positions: 5, color: red

Plug-in bridge - FBS 10-6 - 3030271

Plug-in bridge, pitch: 6.2 mm, width: 60.3 mm, number of positions: 10, color: red

Plug-in bridge - FBS 20-6 - 3030365

Plug-in bridge, pitch: 6.2 mm, width: 122.3 mm, number of positions: 20, color: red

Plug-in bridge - FBS 50-6 - 3032224

Plug-in bridge, pitch: 6.2 mm, width: 308.3 mm, number of positions: 50, color: red

Plug-in bridge - FBS 2-6 BU - 3036932

Plug-in bridge, pitch: 6.2 mm, width: 10.7 mm, number of positions: 2, color: blue

PHŒNIX CONTACT

Electronic device circuit breaker - PTCB E1 24DC/1-8A NO - 2908262

Accessories

Plug-in bridge - FBS 3-6 BU - 3036945

Plug-in bridge, pitch: 6.2 mm, width: 16.9 mm, number of positions: 3, color: blue

Plug-in bridge - FBS 4-6 BU - 3036958

Plug-in bridge, pitch: 6.2 mm, width: 23.1 mm, number of positions: 4, color: blue

Plug-in bridge - FBS 5-6 BU - 3036961

Plug-in bridge, pitch: 6.2 mm, width: 29.3 mm, number of positions: 5, color: blue

Plug-in bridge - FBS 10-6 BU - 3032198

Plug-in bridge, pitch: 6.2 mm, width: 60.3 mm, number of positions: 10, color: blue

Plug-in bridge - FBS 20-6 BU - 3032208

Plug-in bridge, pitch: 6.2 mm, width: 122.3 mm, number of positions: 20, color: blue

Electronic device circuit breaker - PTCB E1 24DC/1-8A NO - 2908262

Accessories

Plug-in bridge - FBS 50-6 BU - 3032211

Plug-in bridge, pitch: 6.2 mm, width: 308.3 mm, number of positions: 50, color: blue

Plug-in bridge - FBS 2-6 GY - 3032237

Plug-in bridge, pitch: 6.2 mm, width: 10.7 mm, number of positions: 2, color: gray

Plug-in bridge - FBS 3-6 GY - 3032240

Plug-in bridge, pitch: 6.2 mm, width: 16.9 mm, number of positions: 3, color: gray

Plug-in bridge - FBS 4-6 GY - 3032279

Plug-in bridge, pitch: 6.2 mm, width: 23.1 mm, number of positions: 4, color: gray

Plug-in bridge - FBS 5-6 GY - 3032266

Plug-in bridge, pitch: 6.2 mm, width: 29.3 mm, number of positions: 5, color: gray

Electronic device circuit breaker - PTCB E1 24DC/1-8A NO - 2908262

Accessories

Plug-in bridge - FBS 2-5 - 3030161

Plug-in bridge, pitch: 5.2 mm, length: 22.7 mm, width: 9 mm, number of positions: 2, color: red

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Plug-in bridge - FBS 3-5 - 3030174

Plug-in bridge, pitch: 5.2 mm, length: 22.7 mm, width: 14.2 mm, number of positions: 3, color: red

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Plug-in bridge - FBS 4-5 - 3030187

Plug-in bridge, pitch: 5.2 mm, length: 22.7 mm, width: 19.4 mm, number of positions: 4, color: red

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Plug-in bridge - FBS 5-5 - 3030190

Plug-in bridge, pitch: 5.2 mm, length: 22.7 mm, width: 24.6 mm, number of positions: 5, color: red

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Plug-in bridge - FBS 10-5 - 3030213

Plug-in bridge, pitch: 5.2 mm, length: 22.7 mm, width: 50.6 mm, number of positions: 10, color: red

Electronic device circuit breaker - PTCB E1 24DC/1-8A NO - 2908262

Accessories

Plug-in bridge - FBS 20-5 - 3030226

Plug-in bridge, pitch: 5.2 mm, number of positions: 20, color: red

Plug-in bridge - FBS 50-5 - 3038930

Plug-in bridge, pitch: 5.2 mm, number of positions: 50, color: red

Plug-in bridge - FBS 2-5 BU - 3036877

Plug-in bridge, pitch: 5.2 mm, number of positions: 2, color: blue

Plug-in bridge - FBS 3-5 BU - 3036880

Plug-in bridge, pitch: 5.2 mm, number of positions: 3, color: blue

Plug-in bridge - FBS 4-5 BU - 3036893

Plug-in bridge, pitch: 5.2 mm, number of positions: 4, color: blue

Electronic device circuit breaker - PTCB E1 24DC/1-8A NO - 2908262

Accessories

Plug-in bridge - FBS 5-5 BU - 3036903

Plug-in bridge, pitch: 5.2 mm, number of positions: 5, color: blue

Plug-in bridge - FBS 10-5 BU - 3036916

Plug-in bridge, pitch: 5.2 mm, number of positions: 10, color: blue

Plug-in bridge - FBS 20-5 BU - 3036929

Plug-in bridge, pitch: 5.2 mm, number of positions: 20, color: blue

Plug-in bridge - FBS 50-5 BU - 3032114

Plug-in bridge, pitch: 5.2 mm, number of positions: 50, color: blue

Plug-in bridge - FBS 2-5 GY - 3038969

Plug-in bridge, pitch: 5.2 mm, number of positions: 2, color: gray

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Electronic device circuit breaker - PTCB E1 24DC/1-8A NO - 2908262

Accessories

Plug-in bridge - FBS 3-5 GY - 3038972

Plug-in bridge, pitch: 5.2 mm, number of positions: 3, color: gray

Plug-in bridge - FBS 4-5 GY - 3038985

Plug-in bridge, pitch: 5.2 mm, number of positions: 4, color: gray

Plug-in bridge - FBS 5-5 GY - 3038998

Plug-in bridge, pitch: 5.2 mm, number of positions: 5, color: gray

Labeled terminal marker

Marker for terminal blocks - UCT-TM 6 CUS - 0829602

Marker for terminal blocks, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm

Multi-conductor terminal block

Feed-through terminal block - PT 4-TWIN - 3211771

Feed-through terminal block, nom. voltage: 800 V, nominal current: 32 A, connection method: Push-in connection, number of connections: 3, cross section:0.2 mm² - 6 mm², AWG: 24 - 10, width: 6.2 mm, color: gray, mounting type: NS 35/7,5, NS 35/15

Electronic device circuit breaker - PTCB E1 24DC/1-8A NO - 2908262

Accessories

Feed-through terminal block - PT 4-QUATTRO - 3211797

Feed-through terminal block, nom. voltage: 800 V, nominal current: 32 A, connection method: Push-in connection, number of connections: 4, cross section:0.2 mm² - 6 mm², AWG: 24 - 10, width: 6.2 mm, height: 35.3 mm, color: gray, mounting type: NS 35/7,5, NS 35/15

Feed-through terminal block - ST 4-TWIN - 3031393

Feed-through terminal block, nom. voltage: 800 V, nominal current: 32 A, connection method: Spring-cage connection, number of connections: 3, cross section:0.08 mm² - 6 mm², AWG: 28 - 10, width: 6.2 mm, color: gray, mounting type: NS 35/7,5, NS 35/15

Feed-through terminal block - ST 4-QUATTRO - 3031445

Feed-through terminal block, nom. voltage: 800 V, nominal current: 32 A, connection method: Spring-cage connection, number of connections: 4, cross section:0.08 mm² - 6 mm², AWG: 28 - 10, width: 6.2 mm, color: gray, mounting type: NS 35/7,5, NS 35/15

Feed-through terminal block - QTC 2,5-TWIN - 3206445

Feed-through terminal block, nom. voltage: 800 V, nominal current: 24 A, connection method: Quick connection, number of connections: 3, cross section:0.5 mm² - 2.5 mm², AWG: 20 - 14, width: 6.2 mm, height: 37.8 mm, color: gray, mounting type: NS 35/7,5, NS 35/7,5

Feed-through terminal block - QTC 2,5-QUATTRO - 3206446

Feed-through terminal block, nom. voltage: 800 V, nominal current: 24 A, connection method: Quick connection, number of connections: 4, cross section:0.5 mm² - 2.5 mm², AWG: 20 - 14, width: 6.2 mm, height: 37.8 mm, color: gray, mounting type: NS 35/7,5, NS 35/7,5

PHŒNIX CONTACT

Electronic device circuit breaker - PTCB E1 24DC/1-8A NO - 2908262

Accessories

Feed-through terminal block - PT 2,5-TWIN - 3209549

Feed-through terminal block, nom. voltage: 800 V, nominal current: 24 A, connection method: Push-in connection, number of connections: 3, cross section:0.14 mm² - 4 mm², AWG: 26 - 12, width: 5.2 mm, height: 35.2 mm, color: gray, mounting type: NS 35/7,5, NS 35/15

Feed-through terminal block - PT 2,5-QUATTRO - 3209578

Feed-through terminal block, nom. voltage: 800 V, nominal current: 24 A, connection method: Push-in connection, number of connections: 4, cross section:0.14 mm² - 4 mm², AWG: 26 - 12, width: 5.2 mm, height: 35.3 mm, color: gray, mounting type: NS 35/7,5, NS 35/15

Feed-through terminal block - ST 2,5-TWIN - 3031241

Feed-through terminal block, nom. voltage: 800 V, nominal current: 24 A, connection method: Spring-cage connection, number of connections: 3, cross section:0.08 mm² - 4 mm², AWG: 28 - 12, width: 5.2 mm, color: gray, mounting type: NS 35/7,5, NS 35/15

Feed-through terminal block - ST 2,5-QUATTRO - 3031306

Feed-through terminal block, nom. voltage: 800 V, nominal current: 24 A, connection method: Spring-cage connection, number of connections: 4, cross section:0.08 mm² - 4 mm², AWG: 28 - 12, width: 5.2 mm, color: gray, mounting type: NS 35/7,5, NS 35/15

Feed-through terminal block - QTC 1,5-TWIN - 3205048

Feed-through terminal block, nom. voltage: 800 V, nominal current: 17.5 A, connection method: Quick connection, number of connections: 3, cross section:0.25 mm² - 1.5 mm², AWG: 24 - 16, width: 5.2 mm, color: gray, mounting type: NS 35/7,5, NS 35/7,5

Electronic device circuit breaker - PTCB E1 24DC/1-8A NO - 2908262

Accessories

Feed-through terminal block - QTC 1,5-QUATTRO - 3205077

Feed-through terminal block, nom. voltage: 800 V, nominal current: 17.5 A, connection method: Quick connection, number of connections: 4, cross section:0.25 mm² - 1.5 mm², AWG: 24 - 16, width: 5.2 mm, color: gray, mounting type: NS 35/7,5, NS 35/7,5

Reducing bridge

Reducing bridge - RB ST 10-(2,5/4) - 3030873

Reducing bridge, pitch: 10 mm, length: 36.3 mm, width: 15 mm, number of positions: 2, color: red

Terminal marking

Zack marker strip - ZB 6:UNBEDRUCKT - 1051003

Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 6.15 x 10.5 mm

Zack Marker strip, flat - ZBF 6:UNBEDRUCKT - 0808710

Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into flat marker groove, for terminal block width: 6.2 mm, lettering field size: 5.15 x 6.15 mm

Marker for terminal blocks - UCT-TM 6 - 0828736

Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: THERMOMARK PRIME, THERMOMARK CARD, BLUEMARK CLED, BLUEMARK LED, TOPMARK LASER, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm

Electronic device circuit breaker - PTCB E1 24DC/1-8A NO - 2908262

Accessories

Marker for terminal blocks - US-TML (104X3,8) - 0830768

Marker for terminal blocks, Card, white, unlabeled, can be labeled with: THERMOMARK PRIME, THERMOMARK CARD, mounting type: adhesive, for terminal block width: 104 mm, lettering field size: 104 x 3.8 mm