PSM-ME-RS232/RS232-P - Interface converter

2744461

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Interface converter, for the isolation of RS-232 (V.24) interfaces, 4 channels, rail-mountable

Product description

A considerably higher level of immunity to interference can be achieved in industrial applications by using V.24 (RS-232) isolator modules. The high-quality 3-way isolation results in an electrically isolated and interference-proof V.24 (RS-232) interface. This decoupling also protects the expensive terminal devices against damage.

Your advantages

- Mounting on standard EN DIN rails
- High-quality 3-way isolation up to 2 kV (VCC // RS-232 // RS-232)
- In the case of variable cable lengths, the RS-232 connection on the field side can be established conveniently using plug-in screw terminal blocks
- Integrated surge protection with transient discharge to the DIN rail
- Transmission of TxD/RxD data channels and RTS/CTS control lines
- 24 V DC or AC power supply suitable for the control cabinet
- Active data transmission indicated by separate data indicators for the transmit and receive channels
- Maximum transmission speed of 115.2 kbps
- Shipbuilding approval in accordance with DNV GL

Commercial data

Item number	2744461
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN11
Product key	DNC111
GTIN	4017918188795
Weight per piece (including packing)	184 g
Weight per piece (excluding packing)	123.18 g
Customs tariff number	85176200
Country of origin	DE

Technical data

Notes

Note on application

Note on application	Only for industrial use

Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area

Utilization restriction

CCCex note	Use in potentially explosive areas is not permitted in China.

Product properties

Product type	Interface converter
Application	RS-232
MTBF	2263 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	438 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))

Electrical properties

Electrical isolation	VCC // V.24 (RS-232) (A) // V.24 (RS-232) (B)
Maximum power dissipation for nominal condition	0.96 W
Test voltage data interface/power supply	2 kV_{rms} (50 Hz, 1 min.)
	2 kV AC
Test voltage data interfaces	2 kV AC

Supply

Supply voltage range	19.2 V AC/DC ... 28.8 V AC/DC
Nominal supply voltage	24 V AC/DC ±20 %
Typical current consumption	40 mA (24 V DC)
Protective circuit	Surge protection; Suppressor diode

Connection data

Supply

Tightening torque	0.56 Nm ... 0.79 Nm

Interfaces

Bit distortion	< 5 %
Bit delay	< 3 µs
Signal	Modbus
Transmission channels	4 (2/2), RxD, TxD, RTS, CTS; full duplex

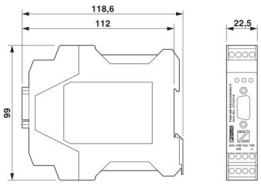
Data: V.24 (RS-232) interface in acc. with ITU-T V.28, EIA/TIA-232, DIN 66259-1

Serial transmission speed	115.2 kbps
Connection method	D-SUB 9 plug
Pin assignment	DTE/DCE switchover via switch
Transmission length	15 m (shielded twisted pair)
Single-wire/terminal point, flexible	0.2 mm² ... 2.5 mm²
Max. AWG conductor cross-section, flexible	13
Min. AWG conductor cross-section, flexible	24
Protocols supported	transparent protocol

Data: V.24 (RS-232) interface in acc. with ITU-T V.28, EIA/TIA-232, DIN 66259-1

Connection method	Pluggable screw connection
Transmission length	15 m (shielded twisted pair)
Single-wire/terminal point, flexible	0.2 mm² ... 2.5 mm²
Max. AWG conductor cross-section, flexible	13
Min. AWG conductor cross-section, flexible	24

Dimensions

Dimensional drawing	
Width	22.5 mm
Height	99 mm
Depth	118.6 mm

Material specifications

Color (Housing)	green (RAL 6021)
Material (Housing)	PA

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	0 °C ... 55 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 5000 m (For restrictions, see the manufacturer's declaration for altitude operation)
Permissible humidity (operation)	10 % ... 95 % (non-condensing)

Approvals

CE

Certificate	CE-compliant

UL, USA/Canada

Identification	508 Recognized
	Class I, Div. 2, Groups A, B, C, D
	Class I, Zone 2, AEx nA IIC T4
	Class I, Zone 2, Ex nA IIC T4 Gc X

Corrosive gas test

Identification	ISA-S71.04-1985 G3 Harsh Group A

Shipbuilding

Identification	DNV GL

Shipbuilding data

Temperature	B
Humidity	A
Vibration	A
EMC	B
Enclosure	Required protection according to the Rules shall be provided upon installation on board

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise immunity	EN 61000-6-2:2005

Noise emission

Standards/regulations	EN 61000-6-3

Electrostatic discharge

Standards/regulations	EN 61000-4-2

Electrostatic discharge

Contact discharge	± 6 kV (Test Level 3)
Discharge in air	± 8 kV (Test Level 3)
Comments	Criterion B

Electromagnetic HF field

Standards/regulations	EN 61000-4-3

Electromagnetic HF field

Frequency range	Test Level 3
Field intensity	10 V/m
Comments	Criterion A

Fast transients (burst)

Standards/regulations	EN 61000-4-4

Fast transients (burst)

Input	± 4 kV (5 kHz)

Signal	± 2 kV (5 kHz)
Comments	Criterion B

Surge current load (surge)

Standards/regulations	EN 61000-4-5

Surge current load (surge)

Input	± 0.5 kV (2 Ω)
Signal	± 2 kV (12 Ω)
Comments	Criterion B

Conducted interference

Standards/regulations	EN 61000-4-6

Conducted interference

Comments	Criterion A
Voltage	10 V

Emitted interference

Standards/regulations	EN 55011
Comments	Class A, industrial applications

Criteria

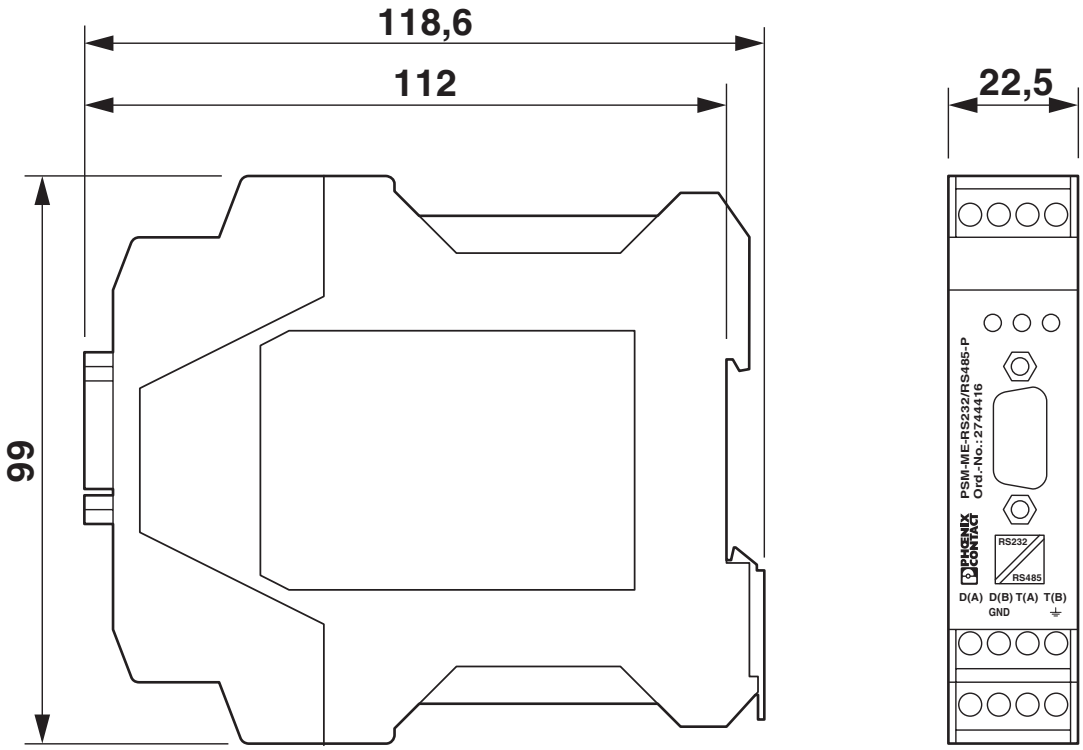
Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.

Mounting

Mounting type	DIN rail mounting

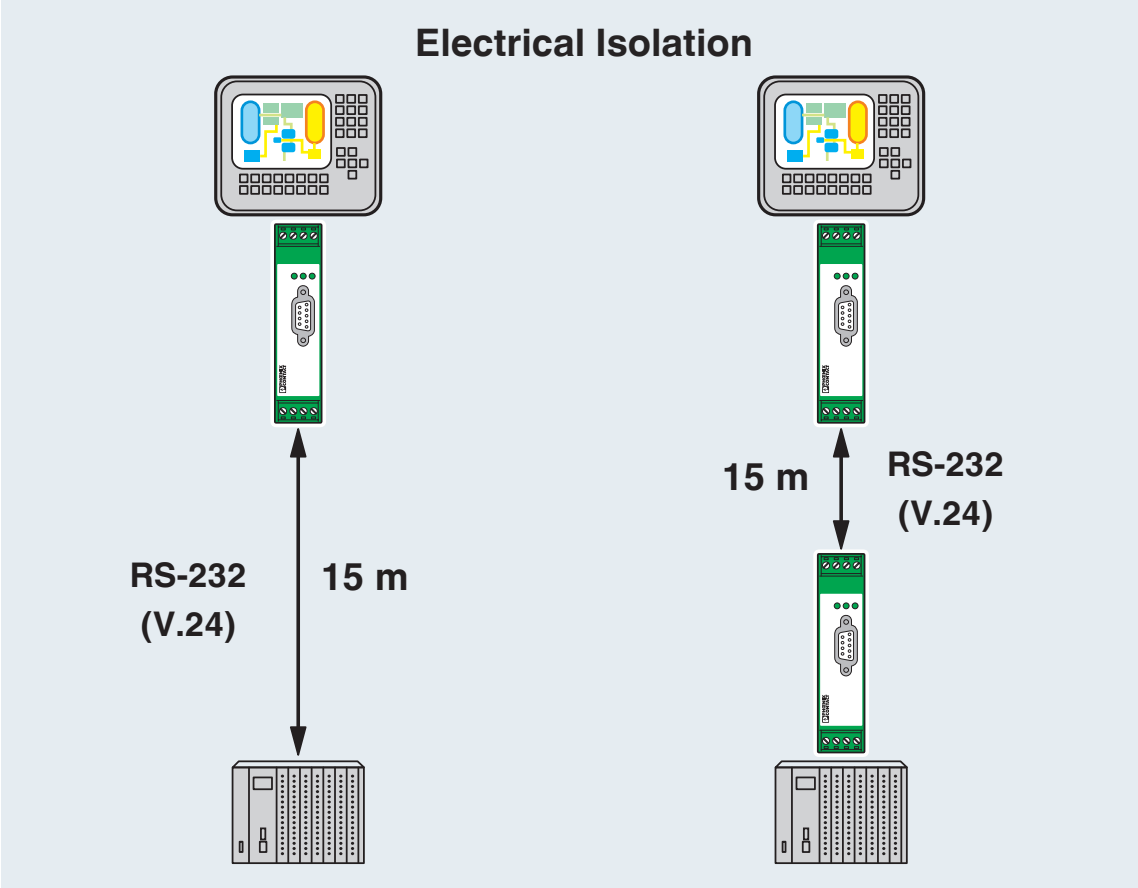
Drawings

Dimensional drawing



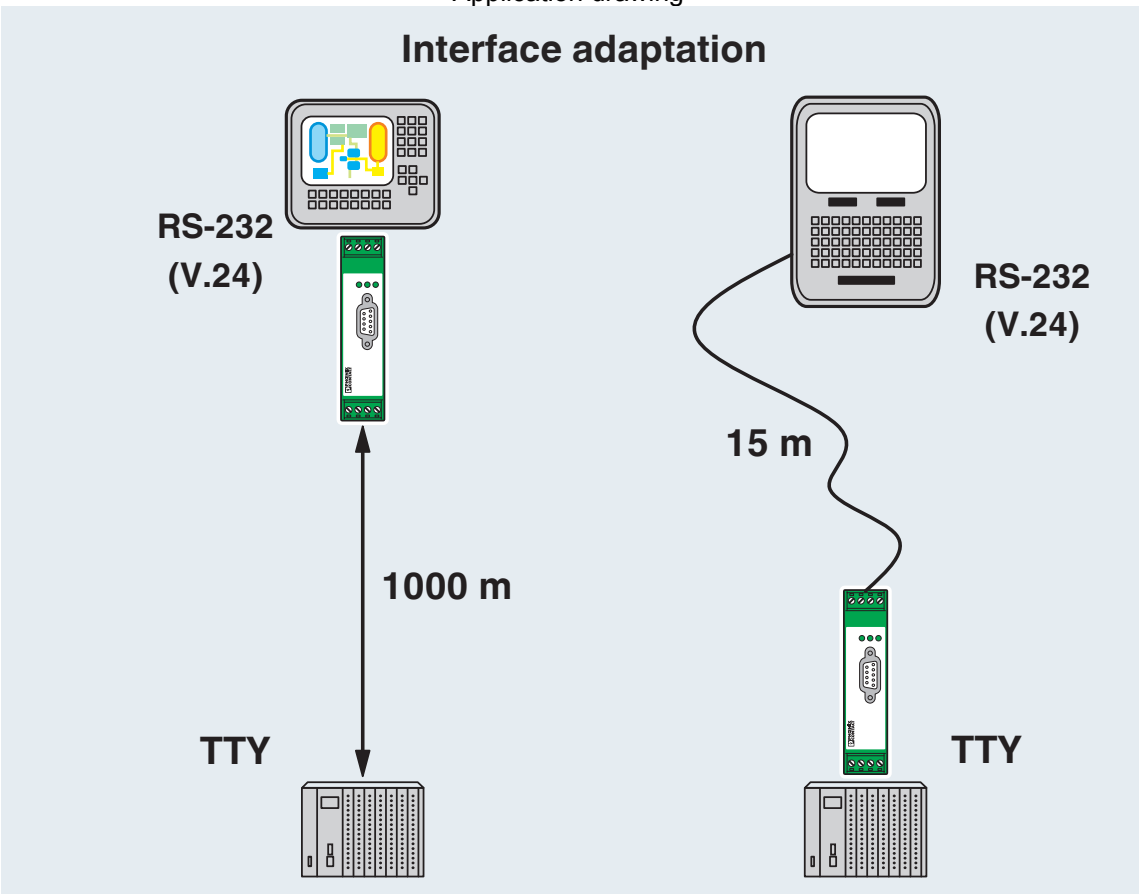
Slim design

Application drawing



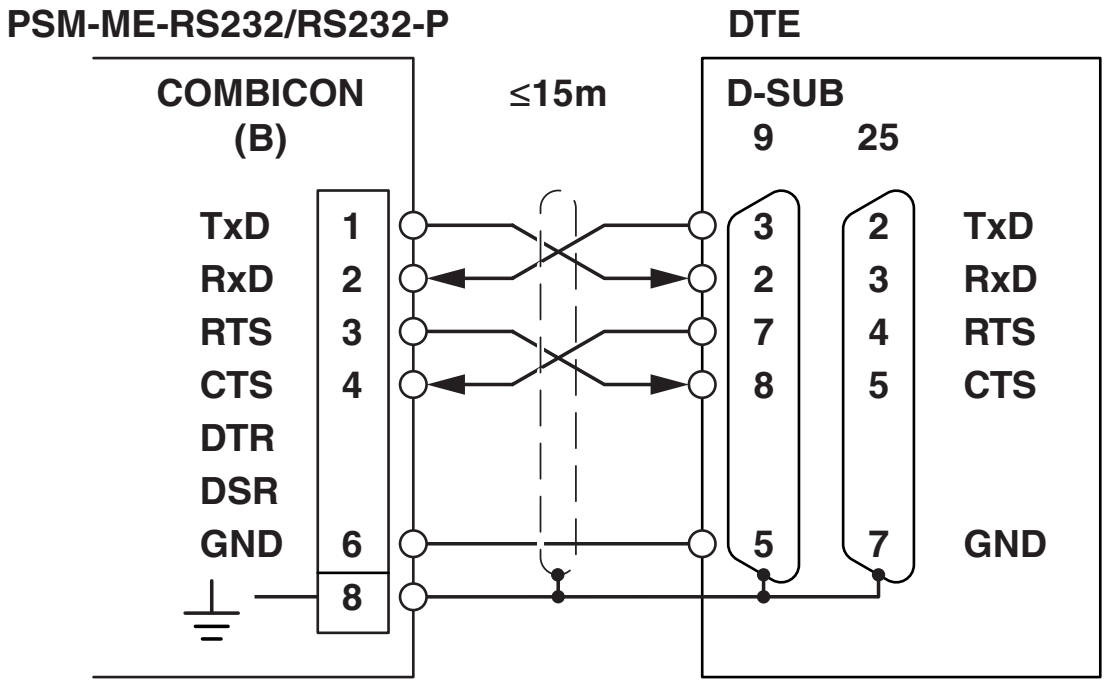
Electrical isolation

Application drawing



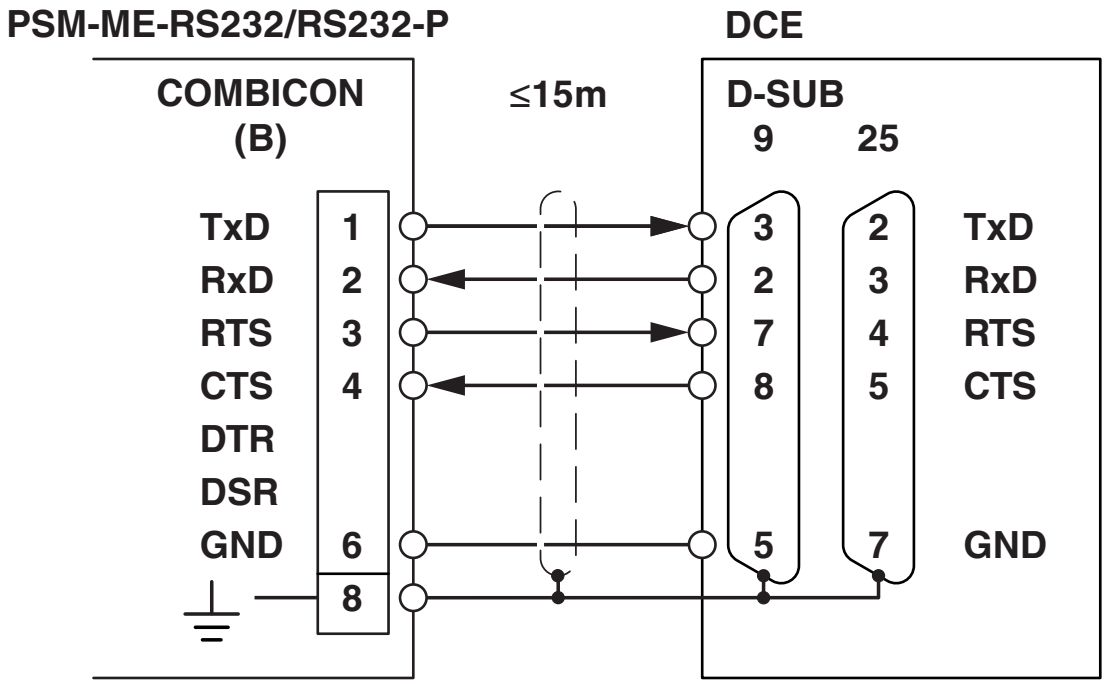
Interface adaptation

Connection diagram



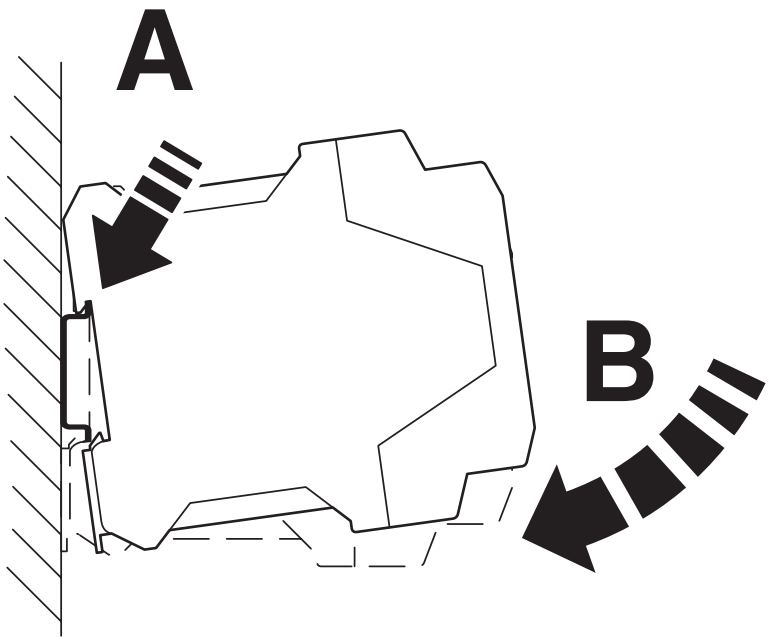
Connection to a DTE device

Connection diagram



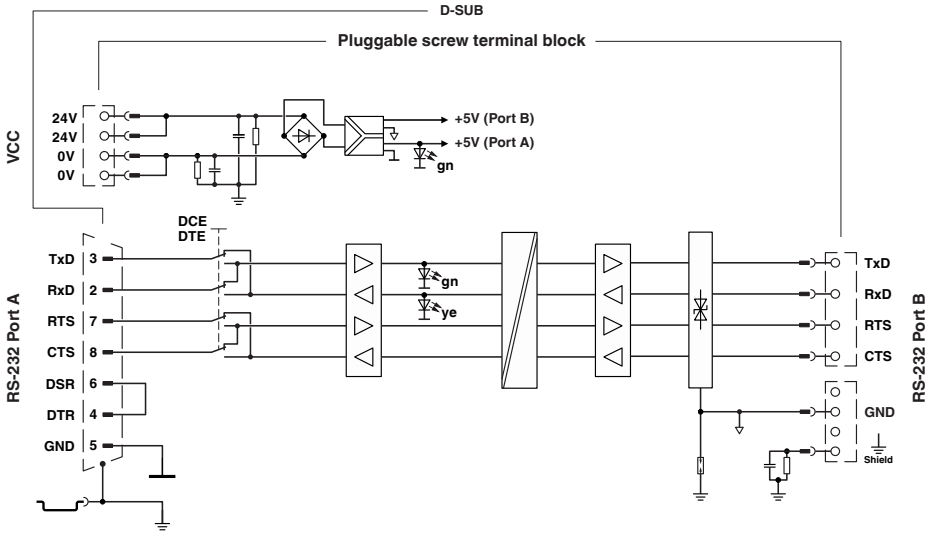
Connection to a DCE device

Schematic diagram



Mounting

Circuit diagram



Basic circuit diagram

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2744461

cUL Recognized
Approval ID: E238705

UL Recognized
Approval ID: E238705

DNV GL
Approval ID: TAA00001KR

cUL Recognized
Approval ID: FILE E 199827

UL Recognized
Approval ID: E199827

cUL Listed
Approval ID: E199827

UL Listed
Approval ID: E199827

Classifications

ECLASS

ECLASS-13.0	27242208
ECLASS-15.0	27242208

ETIM

ETIM 9.0	EC001423

UNSPSC

UNSPSC 21.0	32151700

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	60eb51f9-e2b0-407c-af57-e7f11b51bdde

EF3.0 Climate Change

CO2e kg	3.937 kg CO2e

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