intreXis®

Power Supplies with the X

Datasheet

intreXis Boardnet Converter Platform

IC26X, 150 W Single-Output (5 VDC: 80 W, 12 VDC: 120 W)

24 Vin – 110 Vin

- Xtra wide input voltage range: 14.4 – 154 VDC
- Xtra high efficiency: up to 94.3 % @ 110 Vin, 150 W
- Xtra wide temperature range: -50 – 85 °C

This datasheet covers the details of the IC26X power supplies with single output voltage and output power of 150 W (IC260_5: 80 W, IC261_5: 120 W). These DC/DC converters are designed according to EN 50155:2021 and IEC 60571:2012 for railway applications and are ideal for other demanding environments which require the highest performance and reliability.

Output voltages: 5.1 V, 12 V, 15 V, 24 V, 28 V, 48 V, 55 V, 110 V. Other voltages on request.
Ordering codes: IC260_5, IC261_5, IC262_5, IC263_5, IC264_5, IC267_5, IC268_5, IC269_5.
The differences between the variants are explained in this datasheet.

INPUT CHARACTERISTICS

Continuous Input Voltage Range	16.8 – 137.5 VDC			
Temporary Input Voltage Range according to EN 50155:2021, 5.2.3	14.4 – 154.0 VDC for 1.0 sec			
Input Undervoltage Lockout	Vin_OFF = 13.2 VDC ±2 % Vin_ON = 15.5 VDC ±2 %			
Input Voltage Reverse Polarity Protection	Active reverse polarity protection: Iin_reverse < 500 µA @ Vin = -154 VDC (with reverse polarity of Vin, the converter remains off without being damaged. Only a small reverse current Iin_reverse flows. With correct polarity of Vin, the converter works correctly)			
Inrush Current over the entire operating temperature range	An active inrush limitation circuit limits the input inrush current after turn-on of the input voltage. The charging current into EMI suppression capacitors is disregarded during the first microseconds after switch-on. Inrush Current Energy over the entire input voltage range: I_{inrush}^2t < 2.0 A^2s @ Vin = 16.8 – 137.5 VDC Inrush Current Peak = 17 A typ. @ 24 Vin Inrush Current Peak = 11 A typ. @ 110 Vin			
Input Capacitance	670 µF			
Input Current typ. @ full Load (80 W) IC260_5	**24 Vin**	**36 Vin**	**72 Vin**	**110 Vin**
	3.9 A	2.6	1.3 A	0.85 A
Input Current typ. @ full Load (120 W) IC261_5	**24 Vin**	**36 Vin**	**72 Vin**	**110 Vin**
	5.6 A	3.7 A	1.8 A	1.2 A
Input Current typ. @ full Load (150 W) For all versions, except IC260_5, IC261_5	**24 Vin**	**36 Vin**	**72 Vin**	**110 Vin**
	6.9 A	4.6 A	2.3 A	1.5 A
Input Power typ. @ no Load over the entire input voltage range	0.63 – 1.63 W only for IC269_5: 1.59 – 2.24 W			

Internal Input Fuse	Fuse included, therefore no external fuse or circuit breaker required. If you, nevertheless, install an external circuit breaker for any other reason, please select it according to the recommendation below. I^2t-fuse = 563 A^2s			
External Circuit Breaker recommendation Important: Circuit Breaker must be rated for the maximum DC-input voltage	**24 Vin**	**36 Vin**	**72 Vin**	**110 Vin**
	16 A, type B	10 A, type B	5 A, type B	3 A, type B
Interruptions of Input Voltage Supply (Hold-up time)	Class S2 (10 ms) according to EN 50155:2021 The converter continues to operate as intended during and after the interruption, with no degradation of performance or loss of function over the entire input voltage range (Performance criterion A).			
Startup time (Time input voltage ON to output voltage ON)	< 200 ms for all input voltages			

OUTPUT CHARACTERISTICS

Output Voltage Nominal @ off load	**IC260_5**	**IC261_5**	**IC262_5**	**IC263_5**
	+5.15 VDC	+12.3 VDC	+15.3 VDC	+24.4 VDC
	IC264_5	**IC267_5**	**IC268_5**	**IC269_5**
	+48.4 VDC	+28.0 VDC	+55.0 VDC	+110.0 VDC
Max. Continuous Output Power @ Vin = 16.8–137.5 V, 14.4–154 V for 1.0 sec (no derating over the entire temperature range)	**IC260_5**	**IC261_5**	**IC262_5**	**IC263_5**
	80 W	120 W	150 W	150 W
	IC264_5	**IC267_5**	**IC268_5**	**IC269_5**
	150 W	150 W	150 W	150 W
Minimum Load	No minimum load required.			
Setpoint Accuracy	< 1.0 %			
Load Regulation @ off-load to full load over the entire temperature range	**IC260_5**	**IC261_5**	**IC262_5**	**IC263_5**
	< 1.1 %	< 5.0 %	< 4.4 %	< 3.6 %
	IC264_5	**IC267_5**	**IC268_5**	**IC269_5**
	< 1.9 %	< 0.5 %	< 1.9 %	< 0.1 %
Line Regulation @ full load over the entire temperature range	< 0.1 %			

<table>
<tr><td rowspan="3">Output Ripple & Noise
@ 20 MHz bandwidth, including spikes</td><td>IC260_5</td><td>IC261_5
IC262_5
IC263_5
IC267_5</td><td>IC264_5
IC268_5</td><td>IC269_5</td></tr>
<tr><td>-25 – +85 °C:
< 30 mVpp</td><td>-25 – +85 °C:
< 50 mVpp</td><td>-25 – +85 °C:
< 100 mVpp</td><td>-25 – +85 °C:
< 100 mVpp</td></tr>
<tr><td>-50 – -25 °C:
< 80 mVpp</td><td>-50 – -25 °C:
< 100 mVpp</td><td>-50 – -25 °C:
< 200 mVpp</td><td>-50 – -25 °C:
< 400 mVpp</td></tr>
<tr><td>Overload and Short-Circuit</td><td colspan="4">The converter is continuous overload and short-circuit proof.
Output overloaded:
The output voltage is reduced and the output current limited (constant current).
Output short-circuited:
Constant current.</td></tr>
<tr><td rowspan="4">Current Limit
(varies due to component tolerances)</td><td>IC260_5</td><td>IC261_5</td><td>IC262_5</td><td>IC263_5</td></tr>
<tr><td>16.5 – 18.8 A</td><td>10.5 – 12.0 A</td><td>10.5 – 12.0 A</td><td>6.6 – 7.8 A</td></tr>
<tr><td>IC264_5</td><td>IC267_5</td><td>IC268_5</td><td>IC269_5</td></tr>
<tr><td>3.3 – 3.9 A</td><td>5.6 – 6.7 A</td><td>2.9 – 3.5 A</td><td>1.4 – 1.7 A</td></tr>
<tr><td rowspan="4">Short-Circuit current</td><td>IC260_5</td><td>IC261_5</td><td>IC262_5</td><td>IC263_5</td></tr>
<tr><td>< 19.6 A</td><td>< 12.5 A</td><td>< 12.5 A</td><td>< 8.0 A</td></tr>
<tr><td>IC264_5</td><td>IC267_5</td><td>IC268_5</td><td>IC269_5</td></tr>
<tr><td>< 4.3 A</td><td>< 7.0 A</td><td>< 3.8 A</td><td>< 2.5 A</td></tr>
<tr><td rowspan="6">Overvoltage Protection (OVP)
(output voltage is limited, if main regulation loop fails)</td><td>IC260_5</td><td>IC261_5</td><td>IC262_5</td><td>IC263_5</td></tr>
<tr><td>< 6.0 VDC</td><td>< 16 VDC</td><td>< 20 VDC</td><td>< 31 VDC</td></tr>
<tr><td>IC264_5</td><td>IC267_5</td><td>IC268_5</td><td>IC269_5</td></tr>
<tr><td>< 56 VDC</td><td>< 34 VDC</td><td>< 60 VDC</td><td>< 132 VDC</td></tr>
<tr><td colspan="4">SELV-compliant according to
EN 60950-1:2006+A2:2013,
IEC 60950-1:2005+A1:2009+A2:2013 CSV
(except for IC269_5)</td></tr>
<tr><td>Paralleling of Output</td><td colspan="4">Paralleling up to 3 units.
Falling output-voltage-characteristic ensures current-sharing.
Lead lines to load with equal length and cross section ensure accurate current-sharing between units.
If one or more units fail, the other units continue delivering power without limitations.
For IC260_5, IC267_5 and IC269_5 only:
Paralleling can be optionally included.
Please contact intreXis for advice</td></tr>
<tr><td>Active Decoupling Diode for redundant Systems</td><td colspan="4">A FET on the output, acting as a decoupling diode, is included for redundant systems with two or more power supply sources driving a load.
(except for IC269_5)</td></tr>
<tr><td>Maximum load-capacitance</td><td colspan="4">Unlimited, tested up to 50 mF.
Only for IC269_5: Unlimited, tested up to 5 mF.</td></tr>
</table>

EFFICIENCY

IC260_5:

Conditions	24 Vin	36 Vin	72 Vin	110 Vin
Efficiency typ. @ 100 % Load	86.3 %	86.1 %	88.2 %	89.6 %
Efficiency typ. @ 66 % Load	86.8 %	87.6 %	89.2 %	90.3 %
Efficiency typ. @ 33 % Load	85.8 %	86.1 %	87.8 %	88.5 %

IC261_5:

Conditions	24 Vin	36 Vin	72 Vin	110 Vin
Efficiency typ. @ 100 % Load	89.3 %	89.7 %	91.1 %	92.5 %
Efficiency typ. @ 66 % Load	89.5 %	89.8 %	91.6 %	93.0 %
Efficiency typ. @ 33 % Load	87.8 %	89.0 %	90.4 %	91.6 %

IC262_5:

Conditions	24 Vin	36 Vin	72 Vin	110 Vin
Efficiency typ. @ 100 % Load	89.8 %	90.5 %	91.7 %	93.0 %
Efficiency typ. @ 66 % Load	90.3 %	90.8 %	92.2 %	93.6 %
Efficiency typ. @ 33 % Load	89.8 %	89.4 %	91.8 %	93.6 %

IC263_5, IC267_5:

Conditions	24 Vin	36 Vin	72 Vin	110 Vin
Efficiency typ. @ 100 % Load	91.1 %	91.7 %	92.9 %	94.3 %
Efficiency typ. @ 66 % Load	90.7 %	91.3 %	92.6 %	93.8 %
Efficiency typ. @ 33 % Load	89.0 %	89.1 %	90.7 %	92.1 %

IC264_5:

Conditions	24 Vin	36 Vin	72 Vin	110 Vin
Efficiency typ. @ 100 % Load	90.5 %	91.3 %	92.7 %	94.1 %
Efficiency typ. @ 66 % Load	90.6 %	91.1 %	92.6 %	94.1 %
Efficiency typ. @ 33 % Load	89.2 %	89.1 %	91.2 %	92.8 %

IC268_5:

Conditions	24 Vin	36 Vin	72 Vin	110 Vin
Efficiency typ. @ 100 % Load	90.4 %	91.2 %	92.6 %	94.0 %
Efficiency typ. @ 66 % Load	90.5 %	91.0 %	92.5 %	94.0 %
Efficiency typ. @ 33 % Load	89.1 %	89.0 %	91.1 %	92.7 %

IC269_5:

Conditions	24 Vin	36 Vin	72 Vin	110 Vin
Efficiency typ. @ 100 % Load	90.7 %	91.7 %	92.9 %	94.1 %
Efficiency typ. @ 66 % Load	90.3 %	91.1 %	92.3 %	93.8 %
Efficiency typ. @ 33 % Load	88.6 %	88.4 %	90.0 %	90.9 %

SIGNALS AND INTERFACES

DC-OK Signal	Optically isolated solid-state relay (between connector X20/pin 4-3, see block diagram)	
DC-OK relay/transistor & LED switch on threshold	**IC260_5**	**IC261_5**
	Vout > +4.67 VDC ±2 %	Vout > +10.9 VDC ±2 %
	IC262_5	**IC263_5**
	Vout > +13.7 VDC ±2 %	Vout > +22.0 VDC ±2 %
	IC264_5	**IC267_5**
	Vout > +44.8 VDC ±2 %	Vout > +25.7 VDC ±2 %
	IC268_5	**IC269_5**
	Vout > +50.9 VDC ±2 %	Vout > +105.5 VDC ±2 %
DC-OK relay/transistor & LED switch off threshold	**IC260_5**	**IC261_5**
	Vout < +4.57 VDC ±2 %	Vout < +10.7 VDC ±2 %
	IC262_5	**IC263_5**
	Vout < +13.4 VDC ±2 %	Vout < +21.6 VDC ±2 %
	IC264_5	**IC267_5**
	Vout < +43.3 VDC ±2 %	Vout < +25.2 VDC ±2 %
	IC268_5	**IC269_5**
	Vout < +49.2 VDC ±2 %	Vout < +101.5 VDC ±2 %
DC-OK max. relay/transistor current, when on	50 mA max.	
DC-OK max. relay/transistor voltage-drop, when on	< 1.7 VDC @ 50 mA (between connector X20/pin 4-3, see block diagram)	
DC-OK max. relay/transistor voltage, when off (max voltage which can be applied externally)	±154 VDC (between connector X20/pin 4-3, see block diagram)	

External ON/OFF Signal	**Output voltage is ON if:** - connection between ON/OFF (X10/pin3) and +Vin input (X10/pin1,2) (low impedance connection < 500 Ω) or - external voltage 14.4 – 154 VDC applied between ON/OFF (X10/pin3) and -Vin input (X10/pin4) Current into ON/OFF-Pin is internally limited to: 1.5 – 3.3 mA (see block diagram) **Output voltage is OFF if:** - no connection between ON/OFF (X10/pin3) and +Vin input (X10/pin1,2) (high impedance > 500 kΩ) or - external voltage < 8.0 VDC applied between ON/OFF (X10/pin3) and -Vin input (X10/pin4)
LED	Green LED on output side indicates that output voltage is ok.

ELECTROMAGNETIC COMPATIBILITY (EMC)

Test	Standard	Test severity levels	Performance Criteria
Surges	EN 50155:2021 EN 50121-3-2:2016/ A1:2019 IEC60571:2012 IEC 62236-3-2:2018	1.2/50 µs 42 Ω, 0.5 µF DC power supply port ±2 kV line to ground ±1 kV line to line	Criterion B required, but compliant with more strict criterion A
Electrostatic discharge	EN 50155:2021 EN 50121-3-2:2016/ A1:2019 IEC60571:2012 IEC 62236-3-2:2018	±6 kV contact discharge ±8 kV air discharge	Criterion B required, but compliant with more strict criterion A
Fast transients	EN 50155:2021 EN 50121-3-2:2016/ A1:2019 IEC60571:2012 IEC 62236-3-2:2018	±2 kV 5/50 ns tr/th 5 kHz repetition frequency	Criterion A
Radio-frequency common mode	EN 50155:2021 EN 50121-3-2:2016/ A1:2019 IEC60571:2012 IEC 62236-3-2:2018	150 kHz – 80 MHz 10 Vrms (carrier voltage) 80 % AM, 1 kHz Source impedance 150 Ω	Criterion A
Radio-frequency electromagnetic field	EN 50155:2021 EN 50121-3-2:2016/ A1:2019 IEC60571:2012 IEC 62236-3-2:2018	80 MHz – 1000 MHz 20 Vrms/m 80 % AM, 1 kHz unmodulated carrier; 1400 MHz – 2000 MHz 10 Vrms/m 80 % AM, 1 kHz unmodulated carrier; 2000 MHz – 2700 MHz 5 Vrms/m 80 % AM, 1 kHz unmodulated carrier; 5100 MHz – 6000 MHz 3 Vrms/m 80 % AM, 1 kHz unmodulated carrier	Criterion A
Conducted emissions	EN 50155:2021 EN 50121-3-2:2016/ A1:2019 IEC60571:2012 IEC 62236-3-2:2018	150 kHz – 500 kHz: 99 dBµV quasi-peak 500 kHz – 30 MHz: 93 dBµV quasi-peak	
Radiated emissions	EN 50155:2021 EN 50121-3-2:2016/ A1:2019 IEC60571:2012 IEC 62236-3-2:2018	30 MHz – 230 MHz: 40 dBµV/m quasi-peak at 10 m 230 MHz – 1000 MHz: 47 dBµV/m quasi-peak at 10 m	Class A required, but compliant with more strict Class B

ENVIRONMENTAL CHARACTERISTICS

Operating Temperature	-50 °C – +85 °C Class OT4: -40 – +70 °C and class ST1,ST2: +15 °C according to EN 50155:2021 extended down to -50 °C
Cooling	Natural convection
Storage Temperature Range	-50 °C – +100 °C
Altitude Class	Class Ax (>1400 m) according to EN 50125-1:2014: 5000 m above sea level max.
Pollution Degree	PD2 according to EN50124-1:2017
Shock and Vibration	According to EN 61373:2010, category 1, class B
Rapid Temperature Variation	Class H2 according to EN 50155:2021: -25 °C to +15 °C / 95 %RH, ±3 °C/s +10 °C to +40 °C / 60 %RH, ±3 °C/s
Protective Coating	Class PC2 according to EN 50155:2021 The board is protected on both sides with a protective transparent fluorescent-pigment coating to prevent deterioration or damage due to moisture and atmospheric contaminants. The coating is compliant with class 2, according to IPC-A-610H
Prohibited Substances	No substances defined as Prohibited according to the RoHS, REACH, UNIFE (RISL), or Prohibited for the Project, are present. No substances defined as Declarable according to RoHS, REACH, UNIFE (RISL), or Declarable for the Project, are present.
Fire behaviour	EN 45545-2:2020 compliant with all Hazard Levels HL1-HL3

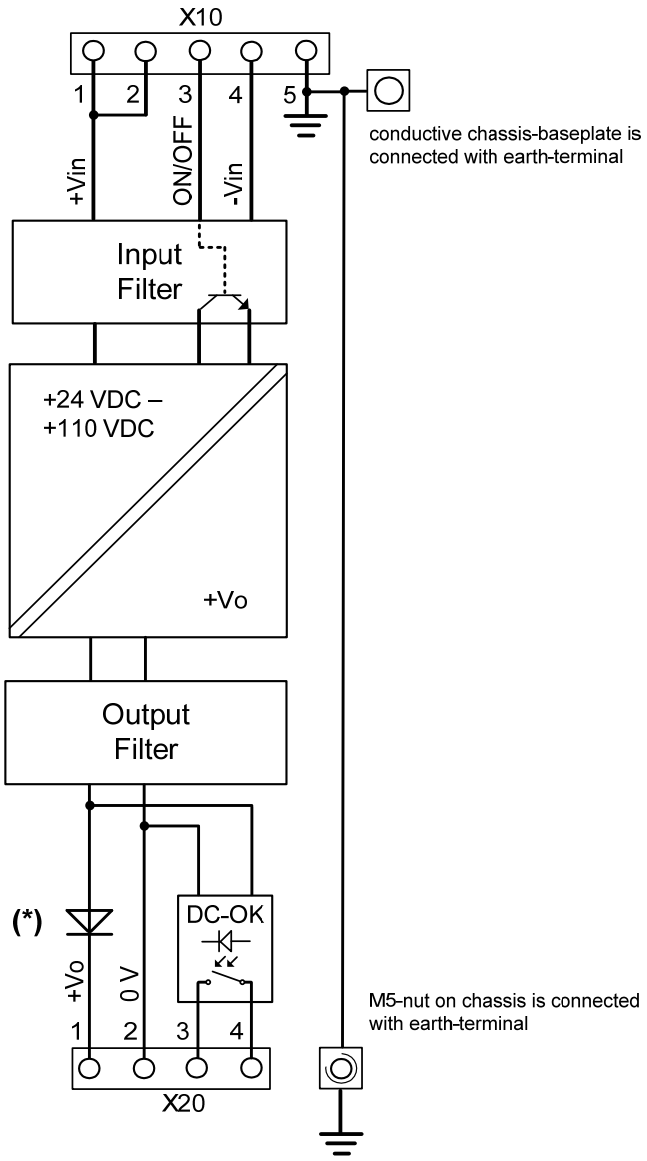
GENERAL CHARACTERISTICS

<table>
<tr><td>General Standard</td><td colspan="4">EN 50155:2021
Railway applications - Rolling stock - Electronic equipment
IEC 60571:2012
Railway applications - Electronic equipment used on rolling stock</td></tr>
<tr><td>Useful Life Class</td><td colspan="4">Class L4 (20 years) according to EN 50155:2021</td></tr>
<tr><td rowspan="2">MTBF
Calculation method: MIL-HDBK-217-F2
Using demonstrated Failure Rates of components</td><td>Ground Benign (GB), +25 °C</td><td>Ground Benign (GB), +40 °C</td><td>Ground Fixed (GF), +40 °C</td><td>Ground Mobile (GM), +40 °C</td></tr>
<tr><td>8 886 000 h</td><td>6 145 000 h</td><td>1 294 000 h</td><td>663 000 h</td></tr>
<tr><td>MTBF
Calculation method: SN 29500 (IEC 61709)</td><td colspan="4">1 869 000 h @ +50 °C</td></tr>
<tr><td>MTBF
Calculation method: Telcordia SR-332 Issue 3</td><td colspan="4">2 138 000 h @ Ground Benign (GB), +45 °C</td></tr>
<tr><td>Marking</td><td colspan="4">Label with following information:
- part number, input voltage range, output voltage, output power
- serial number for identification and traceability (printed in text format and as barcode)
- revision index</td></tr>
<tr><td>Connector identification</td><td colspan="4">Printings on chassis to identify connectors and pin-functions.</td></tr>
</table>

SAFETY AND INSULATION

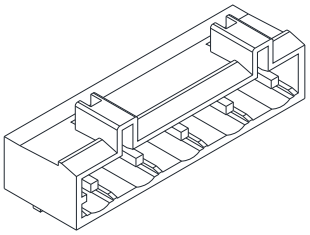
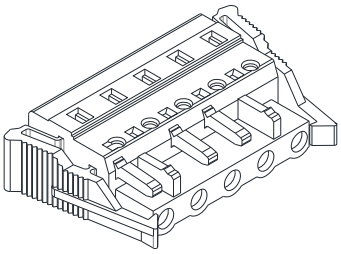
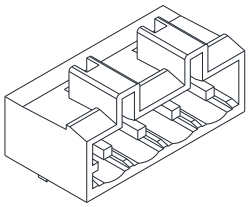
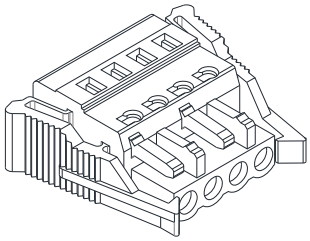
Safety Standards	EN 60950-1:2006+A2:2013, IEC 60950-1:2005+A1:2009+A2:2013 CSV, EN 62368-1:2020+A11:2020 IEC 62368-1:2018+COR1:2020
Insulation Coordination	According to EN50124-1:2017
Input, Output, Chassis	The input is galvanically isolated to the output. Input, output and signals are galvanically isolated to the chassis. The DC-OK Signal is isolated to the output and input (see blockdiagram)
Input to Output	Isolation Voltage: 3300 Vrms at 2000 m altitude, 60 s 2500 Vrms at 5000 m altitude, 60 s Clearance: 5.5 mm Creepage: 5.5 mm For the type test, the Y-capacitors must be removed according to EN 61287-1:2014. Please ask intreXis AG for advice. For the routine test according to EN50124-1:2017 of Input to Output and Input to Chassis, intreXis AG recommends the following procedure: connect Output to Chassis, apply a test-voltage of 2125 VDC or 1500 VAC with trigger threshold >30 mA), 10 s between Input and Chassis. For this test, the Y-capacitors must not be removed. Please ask intreXis AG for advice.
Input to Chassis	Isolation Voltage: 2000 Vrms, 60 s Clearance: 2.5 mm Creepage: 2.5 mm For the routine test, see above.
Output to Chassis	Isolation Voltage: 1000 Vrms, 60 s Clearance: 1.6 mm Creepage: 1.6 mm
DC-OK Signal to Output DC-OK Signal to Input DC-OK Signal to Chassis	Isolation Voltage: 2000 Vrms, 60 s Clearance: 2.5 mm Creepage: 2.5 mm
Insulation Resistance	Input – Chassis: > 550 MΩ Input – Output: > 550 MΩ Output – Chassis: > 550 MΩ DC-OK Signal to Output: > 550 MΩ DC-OK Signal to Input: > 550 MΩ DC-OK Signal to Chassis: > 550 MΩ Test-voltage: 500 VDC

BLOCK DIAGRAM



(*) For IC269_5 only:
decoupling diode can be optionally included.

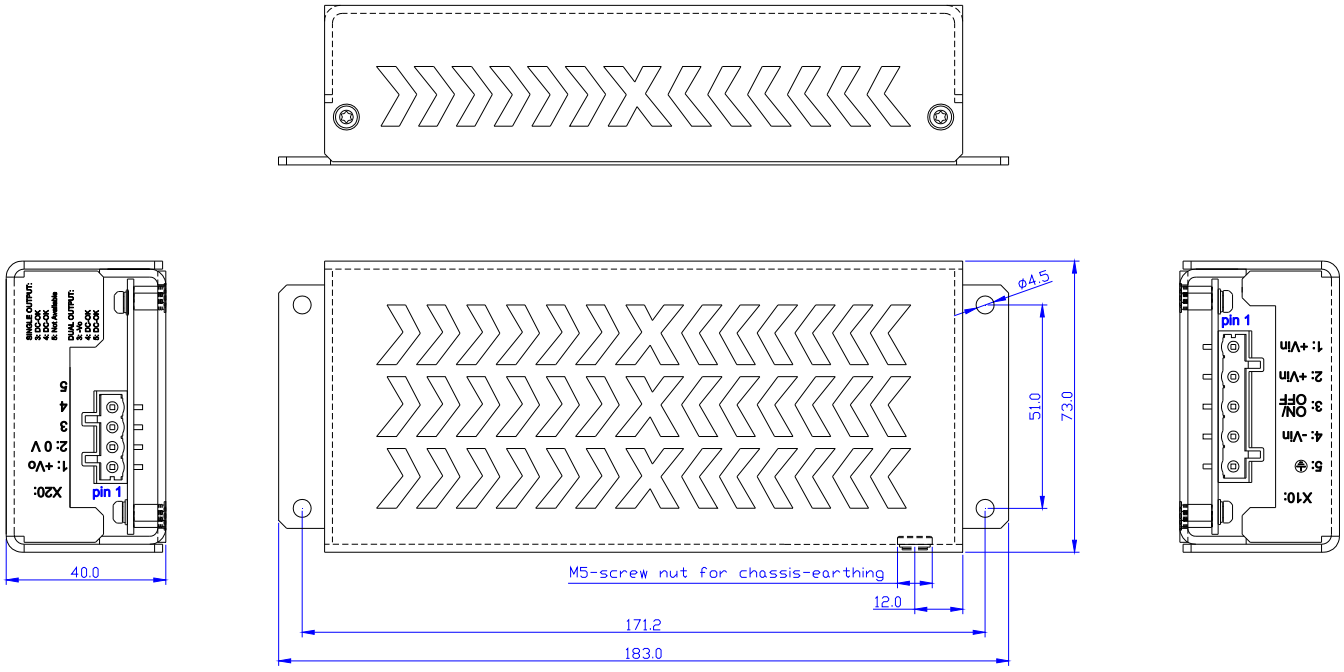
CONNECTOR TYPES

Input connector X10	Wago 721-865/001-000 Pitch: 7.5 mm Number of pins: 5  Mating part: Wago 721-205/037-000 
Output connector X20	Wago 721-464/001-000 Pitch: 5.0 mm Number of pins: 4  Mating part: Wago 721-104/037-000 

MECHANICAL CHARACTERISTICS

Chassis	Aluminium: EN AW 5052 - AL5052 - AlMg2.5 or EN AW 5754 - AL5754 - AlMg3 Baseplate: blank Cover: black anodized
Overall dimensions	According to the drawing (millimetres, unless otherwise specified)
Weight	440 g
IP code	IP20
Mounting	Mounting in any position is allowed

Mechanical drawings:



Output connector X20:
1.+Vo
2. 0V
3. DC-OK
4. DC-OK

Input connector X10:
1. +Vin
2. +Vin
3. ON/OFF
4. -Vin
5. Earth

The unit must be secured using four M4 screws or bolts (not supplied) in the mounting holes.

TEST COMPLIANCE SUMMARY (CERTIFICATE OF CONFORMITY)

Performed Test	Standard	Test conditions	Performance level	Reference document
Visual inspection	EN 50155:2021 IEC60571:2012	Aspect, dimensions, weight, markings	According to design specification	Test report
Performance test	EN 50155:2021 IEC60571:2012	Ambient temperature. Nominal supply voltage: 24 VDC and 110 VDC Supply voltage range: 16.8 – 137.5 VDC (static)	Criterion A	Test report
Power supply test Supply overvoltages	EN 50155:2021 IEC60571:2012	Supply voltage: 14.4 – 154 VDC 1s	Criterion B required, but tested with more strict criterion A	Test report
Insulation test	EN 50155:2021 IEC60571:2012	Input – Chassis 500 VDC Input – Output 500 VDC Output – Chassis 500 VDC DC-OK Signal – Output DC-OK Signal – Input DC-OK Signal – Chassis Repeated after Voltage withstand test Voltage withstand test: Input – Chassis 2000 Vrms 60 s Input – Output 3300 Vrms 60 s Output – Chassis 1000 Vrms 60 s DC-OK Signal – Output 2000 Vrms 60 s DC-OK Signal – Input 2000 Vrms 60 s DC-OK Signal – Chassis 2000 Vrms 60 s	Resistance > 20 MΩ (measured >550 MΩ, exceeding the requirement) No disruptive discharge	Test report
Low temperature test Cold start test	EN 50155:2021 IEC60571:2012	T = -50 °C	Criterion A (exceeds the requirements, extended range down to -50 °C for extremely cold environments)	Test report
Dry heat test	EN 50155:2021 IEC60571:2012	T = +70 °C (cycle A) T = +85 °C (cycles B and C)	Criterion A	Test report
Low temperature storage test	EN 50155:2021 IEC60571:2012	T = -50 °C	Criterion A after recovery period	Test report
Cyclic damp heat test	EN 50155:2021 IEC60571:2012	T = +55 °C and +25 °C (2 cycles)	Criterion A	Test report
Electromagnetic compatibility test	EN 50155:2021 EN 50121-3-2:2016/ A1:2019 IEC60571:2012 IEC 62236-3-2:2018	See section 'Electromagnetic Compatibility (EMC)'		Testreport_EMC R-EM-354-1016-02A
Shock and vibration test	EN 50155:2021 IEC60571:2012	EN 61373:2010, Category 1, class B		Testreport_Vibrations R-MC-354-0222-02A

Additional tests:

Performed Test	Standard	Test conditions	Performance level	Reference document
Fire behaviour	EN 45545-2:2020	PCB: R25 (EN 60695-2-11, T16: No ignition at T=850 °C)	PASSED (HL1-HL2-HL3)	Fire_Certificate_IC26X

Furthermore, the product is compliant with the requirements of:

- EC 1907/2006 (December,18th 2006) REACH regulation: Registration, Evaluation, Authorisation and Restriction of Chemicals.

- UNIFE Railway Industry Substance List

Neuhausen am Rheinfall, 01.08.2022

Thomas Schiegg
intreXis AG

EU DECLARATION OF CONFORMITY (DoC)

CE

Product Models	IC260_5, IC261_5, IC262_5, IC263_5, IC264_5, IC267_5, IC268_5, IC269_5.	
Name and address of the manufacturer	intreXis AG Tobelraastrasse 4 CH-8212 Neuhausen am Rheinfall Switzerland	
This declaration of conformity is issued under the sole responsibility of the manufacturer.		
IC260_5, IC261_5, IC262_5, IC263_5, IC264_5, IC267_5, IC268_5, IC269_5. 		
The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:	Low Voltage Directive: RoHS Directive: EMC Directive:	2014/35/EU 2011/65/EU, (EU) 2015/863 2014/30/EU
References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:	Low Voltage Directive: RoHS Directive: EMC Directive: Railway Applications:	EN 62368-1:2020/A11:2020 EN IEC 63000:2018 EN 50121-3-2:2016/ A1:2019 EN 50155:2021
Signed for and on behalf of:	intreXis AG Tobelraastrasse 4 CH-8212 Neuhausen am Rheinfall Switzerland	
Place, Date of issue	Neuhausen am Rheinfall, 01.08.2022	
Name, Function, Signature	Thomas Schiegg, Managing Director:	

UK DECLARATION OF CONFORMITY (DoC)

Product Models	IC260_5, IC261_5, IC262_5, IC263_5, IC264_5, IC267_5, IC268_5, IC269_5.	
Name and address of the manufacturer	intreXis AG Tobelraastrasse 4 CH-8212 Neuhausen am Rheinfall Switzerland	
This declaration of conformity is issued under the sole responsibility of the manufacturer.		
IC260_5, IC261_5, IC262_5, IC263_5, IC264_5, IC267_5, IC268_5, IC269_5 		
The object of the declaration described above is in conformity with the relevant UK legislation:	UK SI 2016 No. 1101: UK SI 2012 No. 3032: UK SI 2016 No. 1091:	Electrical Equipment (Safety) Regulations 2016 The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 Electromagnetic Compatibility Regulations 2016
References to the relevant standards used or references to the other technical specifications in relation to which conformity is declared:	Low Voltage Directive: RoHS Directive: EMC Directive: Railway Applications:	BS EN 62368-1:2020/A11:2020 BS EN IEC 63000:2018 BS EN 50121-3-2:2016/A1:2019 BS EN 50155:2021
Signed for and on behalf of:	intreXis AG Tobelraastrasse 4 CH-8212 Neuhausen am Rheinfall Switzerland	
Place, Date of issue	Neuhausen am Rheinfall, 01.08.2022	
Name, Function, Signature	Thomas Schiegg, Managing Director: 	

INSTALLATION AND OPERATION

Safety	 Warning / Caution! The power supplies should be installed and put into operation only by qualified personnel. Before installing or removing the unit, disconnect the power from the system. For 72 V and 110 V input applications, in addition to the main protective earthing terminal (X10/pin5), a separate protective earthing terminal must be permanently connected to the conductive chassis-baseplate or to the M5-nut provided on the chassis.
Servicing	In case of failures, malfunctions or defects, the converter must be returned to intreXis for analysis and repair. In particular, the converter should be sent to intreXis for analysis if any damage has occurred to the unit (e.g. the unit dropped). Any attempts to open and repair the unit could void the warranty and could expose the operator to hazardous voltages.
Spare Parts	List and drawings of spare parts are not provided, since the failed units have to be returned to intreXis for analysis and repair.
Disposal	Disused units must be collected separately and disposed at a suitable recycling facility.
Connecting the Cables	Ensure that proper wires are used according to the input current specifications. Prepare the cables according to the specifications of the particular connector used.
Operation of the Unit	Once the input power is applied, the output voltage is enabled, unless the External ON/OFF signal is disabling the converter (OFF-state).