NORDIC POWER CONVERTERS
Powering a brighter future™

# InviTrack

## The invisible track driver

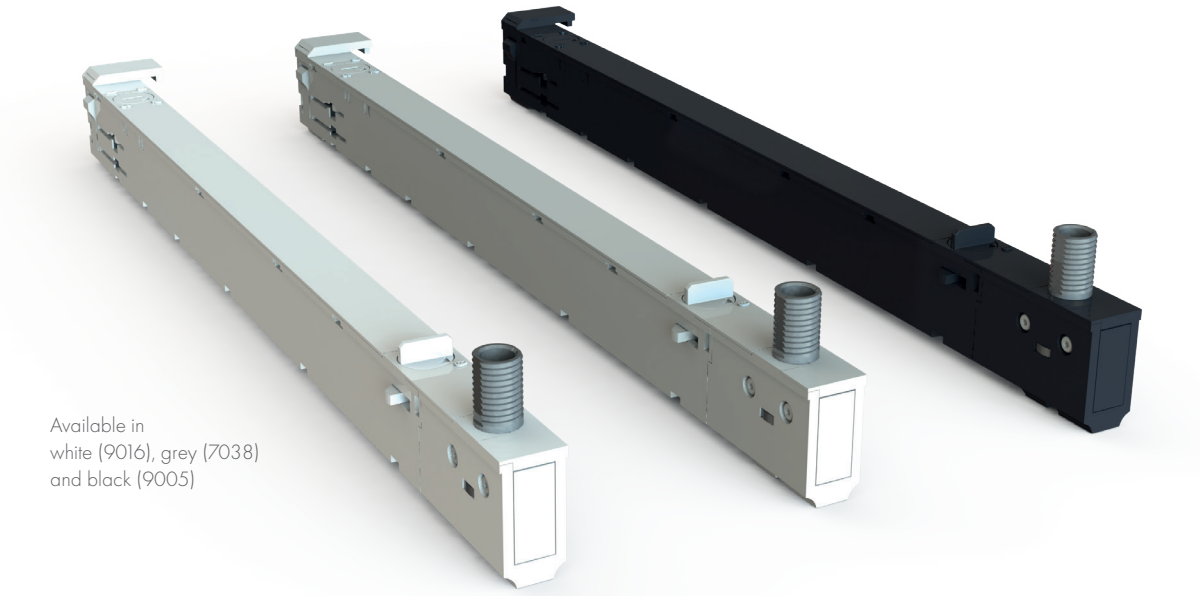
lighting for good Winner awards 2020 BEST DRIVER

# INVITRACK – THE INVISIBLE TRACK DRIVER

Nordic Power Converters and EUTRAC have joined forces, and combined cutting-edge LED drivers with world-class track components to fix an industry eye-sore; the new InviTrack driver series puts the entire LED driver inside the track. The driver is virtually invisible, the only thing seen on the track is your perfectly designed luminaire. Set your design free and improve the Quality of Light at the same time.

## Product Advantages

- **Completely in-track,** enabling a true no-compromise design.
- **Flicker free,** no visible or perceivable flicker (IEEE1789 NOEL compliant, very low PstLM and SVM values).
- **Low temperature,** ensuring high reliability through high efficiency and good thermal design.
- **No inrush current,** enabling use of the full power rating of the main fuse.
- **Easy selection of output current** from 350-700 mA in steps of 50 mA via dipswitch.
- **Fits all major tracks,** including EUTRAC, Global, Stucchi and many more.



Available in
white (9016), grey (7038)
and black (9005)

## Main specifications

| Specification item | Value |
|---|---|
| Input voltage | 220...240 V |
| PF | > 0.96 |
| THD | ~20% |
| Inrush | >100 drivers on a MCB 16A type B fuse |
| Efficiency | > 86% |
| Isolation | SELV/Class-II |
| Output power | 28 W |

| Specification item | Value |
|---|---|
| Output current | 350...700 mA |
| Output voltage | 24...40 V |
| Size | 300×13.8×28.4 mm |
| Luminaire weight, max | 5 kg |
| Lifetime | 50,000 hrs |
| Ambient temperature | -20 °C to 35 °C |
| $T_{case}$ max | 80 °C |

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# Electrical specifications

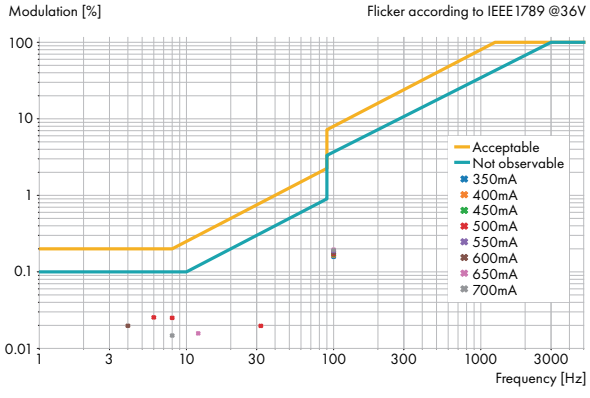
## Input characteristics

| Specification item | Value | Condition |
|---|---|---|
| Rated input voltage range | 220...240 $V_{AC}$ | Performance range |
| Rated input voltage | 230 $V_{AC}$ | |
| Rated input frequency range | 50/60 Hz | Performance range |
| Rated input current | 150 mA | @ full output power @ rated input voltage |
| Rated input power | 33 W | @ full output power @ rated input voltage |
| Power factor | 0.96 | @ full output power @ rated input voltage |
| Total harmonic distortion | 20% | @ full output power @ rated input voltage |
| Efficiency | 86% | @ full output power @ rated input voltage |
| EU Ecodesign | Compliant | Requirements of December 2019 |
| Input voltage AC range | 198...264 $V_{AC}$ | Operational range |
| Input frequency AC range | 47...63 Hz | Operational range |
| Isolation input to output | SELV | |
| Inrush current $I_{PEAK}$ | 0.5 A | @ rated input voltage |
| Inrush current $T_{WIDTH}$ | 3.3 ms | @ rated input voltage @ 50% $I_{PEAK}$ |
| Drivers/MCB 16A type B | > 100 pcs | |

## Output characteristics

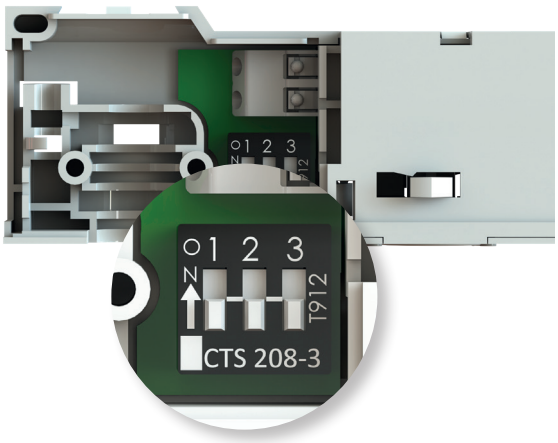
| Specification item | Value | Condition |
|---|---|---|
| Control method | Constant current | |
| Output voltage range | 24...40 $V_{DC}$ | |
| Output voltage (max) | 60 $V_{DC}$ | Peak voltage at open load |
| Output current range | 350...700 mA | Set via jumper, with 50 mA steps |
| Output current tolerance | ±5% | @ 36 $V_{DC}$ |
| Output flicker | IEEE 1789 NOEL | Compliant with IEEE 1789 No Observable Effect Limit |
| PstLM | <0.5 | @ 36 Vdc and 700 mA |
| SVM | <0.05 | @ 36 Vdc and 700 mA |
| Output current ripple, <120 Hz | 0.2% | @ 36 $V_{DC}$ |
| Output current ripple, <3 kHz | 0.2% | @ 36 $V_{DC}$ |
| Output power | 28 W | @ 40 $V_{DC}$ |

## Flicker measurement



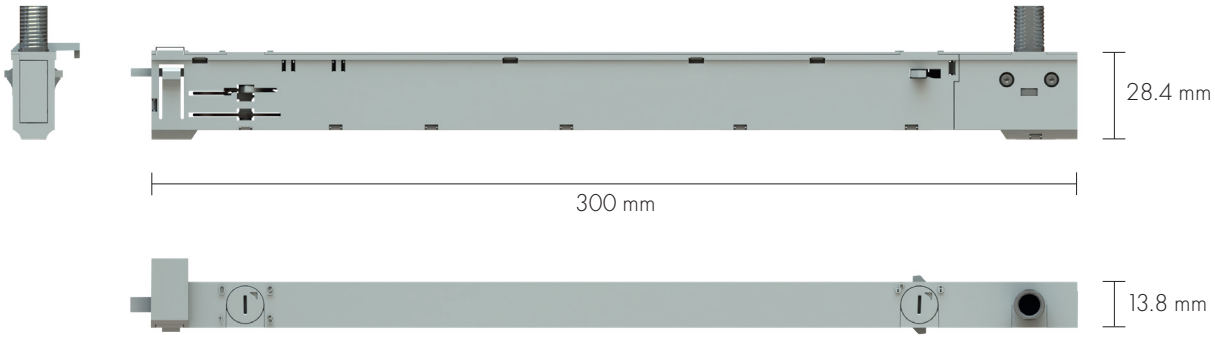
## Output setting

| Specification item | Value | Dipswitch 1 | Dipswitch 2 | Dipswitch 3 |
|---|---|---|---|---|
| Output current | 350 mA | OFF | OFF | OFF |
| | 400 mA | OFF | OFF | ON |
| | 450 mA | OFF | ON | OFF |
| | 500 mA | OFF | ON | ON |
| | 550 mA | ON | OFF | OFF |
| | 600 mA | ON | OFF | ON |
| | 650 mA | ON | ON | OFF |
| | 700 mA | ON | ON | ON |




## Dimensions and weight

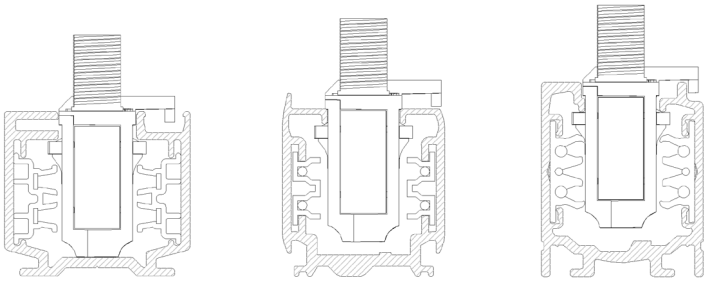
| Specification item | Value | Condition |
|---|---|---|
| Length | 300 mm | |
| Width | 13.8 mm | |
| Height | 28.4 mm | Without retaining collar |
| Weight | 100 g | |



## Compatible tracks

| Manufacturer | Part number |
|---|---|
| EUTRAC | 25 Series, 225 Series, 26 Series, 226 Series, 19 Series, 219 Series |
| Global | XTS Series, XTSF Series, XTSC Series, XTSCF Series |
| Stucchi | 9000 Series incl. models ST, R and H |
| iGuzzini | P289, P290, P291, P292, P293, P294, P295, P296 |
| UniPro | T3 Series, TC3 Series |
| PowerGear | PRO-04 Series, PRO-R4 Series, PRO-06 Series, PRO-R6 Series |

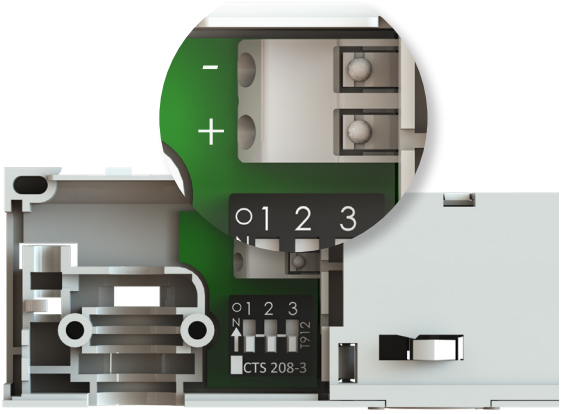
Tests have been done with tracks taken from the market in 2020 and 2021.
Nordic Power Converters has no control or responsibility on any future or past possible changes made by different manufactures that could affect the compatibility between tracks and adapters.
When product is used, a clearance distance between the InviTrack casing and any of the track's non-insulated live parts (incl. DALI conductors) must be minimum 3mm. The retaining collar is not intended to be electrically connected to the LED output terminals or protective earth



EUTRAC Global Stucchi

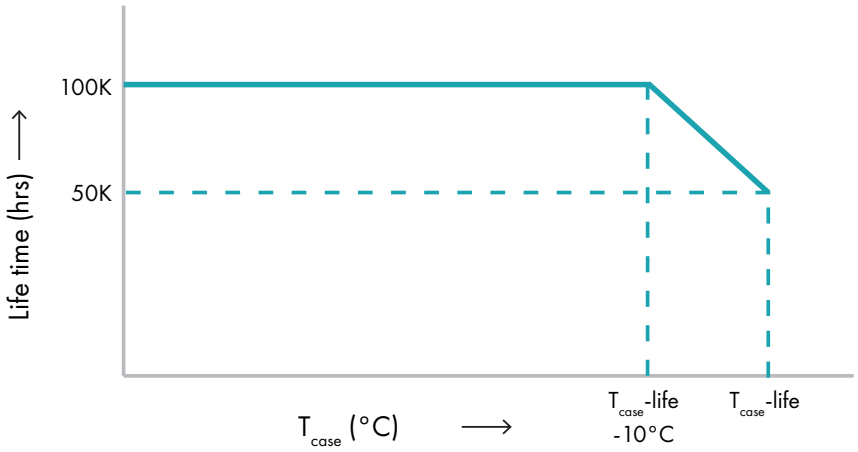
## Wiring and connections

| Specification item | Value | Condition |
|---|---|---|
| Output wire cross-section | 0.2...0.75 mm² | Solid or strand wire |
| | 24...18 AWG | Solid or strand wire |
| Output wire strip length | 7..9 mm | |
| Screw size | Torx 6 | |
| Maximum cable length | 300 mm | Total length of wiring including LED module, one way |
| Maximum luminaire weight | 5 kg | According to EN 60570 |



## Operating conditions

| Specification item | Value | Condition |
|---|---|---|
| Ambient temperature | -20...+35 °C | Higher ambient temperature allowed as long as $T_{case}$-max is not exceeded |
| $T_{case}$-max | 80 °C | Maximum temperature measured at $T_{case}$-point |
| $T_{case}$-life | 80 °C | Measured at $T_{case}$-point |
| Relative humidity | 5...85% | Non-condensing |
| Mains surge immunity (diff. mode) | 1 kV | Acc. IEC61000-4-5 2 Ohm 1.2/50us, 8/20us |
| Mains surge immunity (comm. mode) | 2 kV | Acc. IEC61000-4-5 2 Ohm 1.2/50us, 8/20us |
| Lifetime | 50,000 hrs | Measured temperature at $T_{case}$-point is $T_{case}$-life. Maximum failures = 10% |
| Warranty | 2 years | |



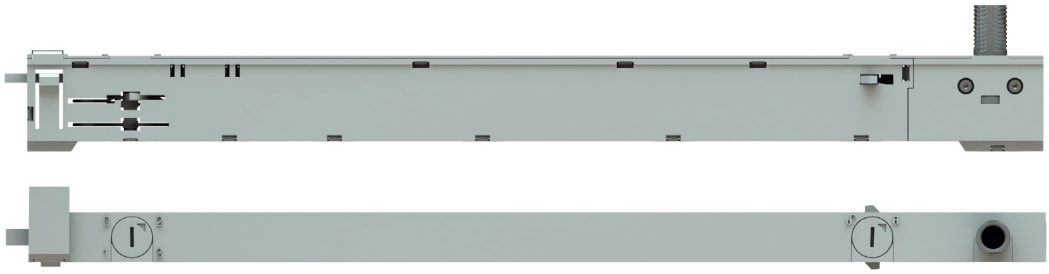

## Conformity and standards

| Specification item | Value | Condition |
|---|---|---|
| Protection class | Class II | |
| Isolation voltage | 3 kV | |
| Casing class | IP20 | |
| Approvals | CE | |
| EMC standards | EN55015, EN61547, EN61000-3-2 (class C) | |
| Safety standards | EN61347-2-13, EN61347-1 EN60570 | |

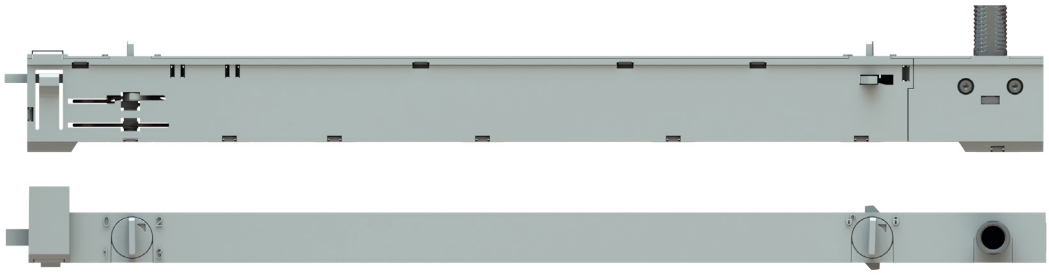
## Ordering data

| Specification item | Color | Locking option | Article number |
|---|---|---|---|
| InviTrack CC700 | White (9016) | Turn key slit | ITC700A DIP WSA |
| InviTrack CC700 | Grey (7038) | Turn key slit | ITC700A DIP GSA |
| InviTrack CC700 | Black (9005) | Turn key slit | ITC700A DIP BSA |
| InviTrack CC700 | White (9016) | Turn key knob | ITC700A DIP WKA |
| InviTrack CC700 | Grey (7038) | Turn key knob | ITC700A DIP GKA |
| InviTrack CC700 | Black (9005) | Turn key knob | ITC700A DIP BKA |

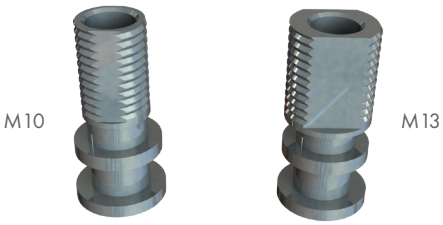
Standard packaging units contains 25 or 50 InviTrack CC700 drivers (one variant per package).



Turn key slit



Turn key knob

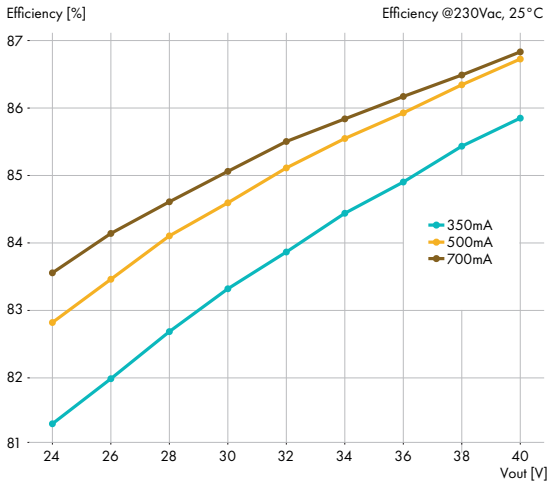



## Retaining collars

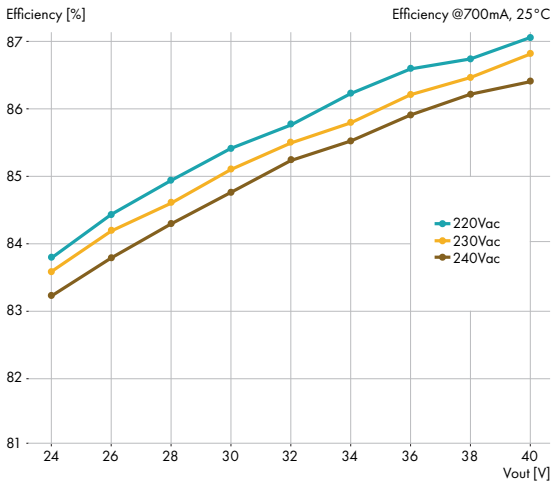
| Specification item | Thread | Rotation | Article number |
|---|---|---|---|
| Retaining collar M10 | M10 x 1 | Smart slider for 360° rotation | IT14MMA M10 GXA |
| Retaining collar M13 | M13 x 1 | Smart slider for 360° rotation | IT14MMA M13 GXA |

The values in this data sheet can change due to technical innovations and will be made without separate notification

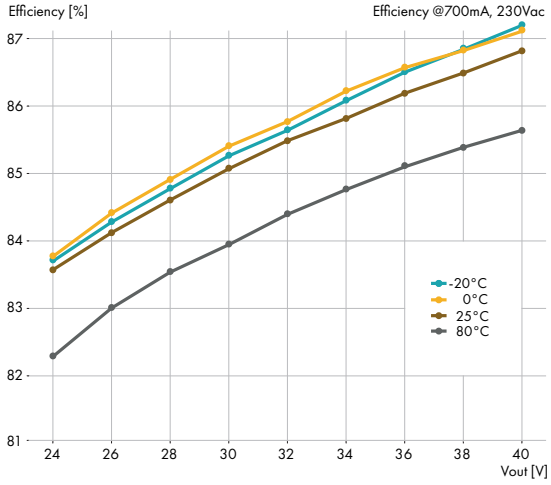
## Efficiency vs. Output current



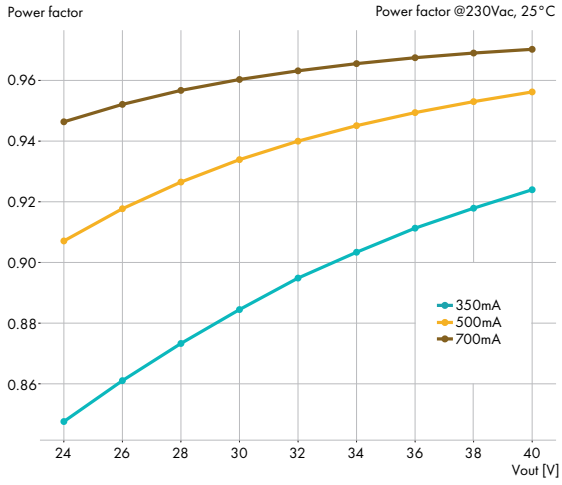

## Efficiency vs. Input voltage



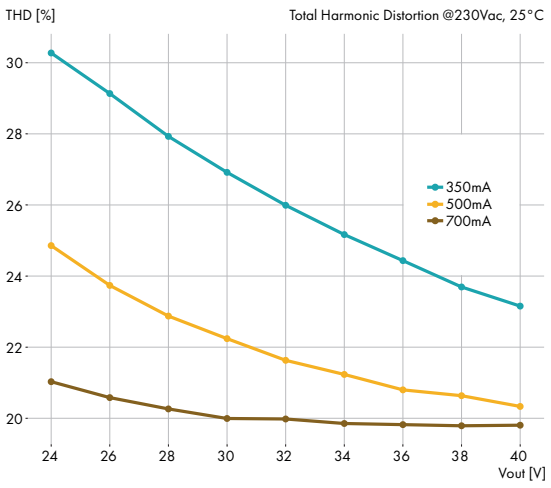

## Efficiency vs. Temperature

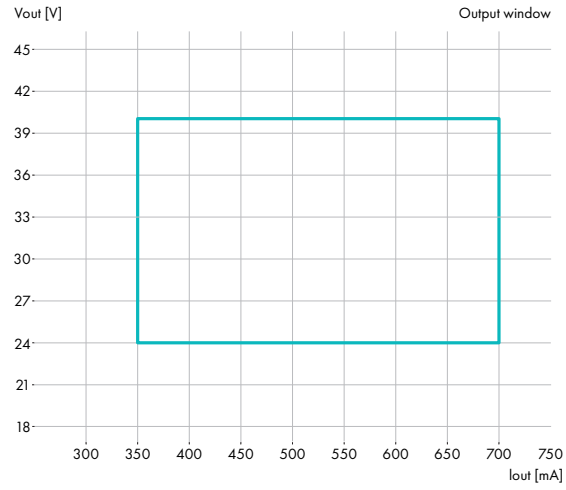



## Power factor vs. Output current




## THD vs. Output current




## Output window