

CUSTOMER

Club Car

Vehicle:	Electric golf cart and light utility vehicle
Driveline layout:	Rear wheel drive, rear transversal electric motor coupled with transaxle
Product:	Transaxle
Motor features:	3 kW, 105 Nm @ 3200 rpm, max. speed 6000 rpm
Gearbox features:	Two step reduction Total reduction ratio 1:12.315 (other ratios available on demand) Gross axle weight 950 kg Gross vehicle weight 1280 kg



Oerlikon Graziano SpA

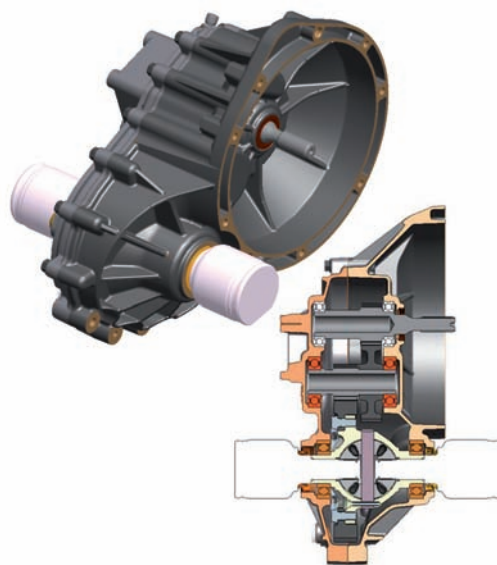
Via Cumiana 14 - 10098 Rivoli (Turin-Italy)
Phone +39.011.9570.1 - Fax +39.011.9570.240
info@grazianotrasmissioni.it

www.oerlikon.com/graziano
www.oerlikon.com

CUSTOMER

Pininfarina Bolloré

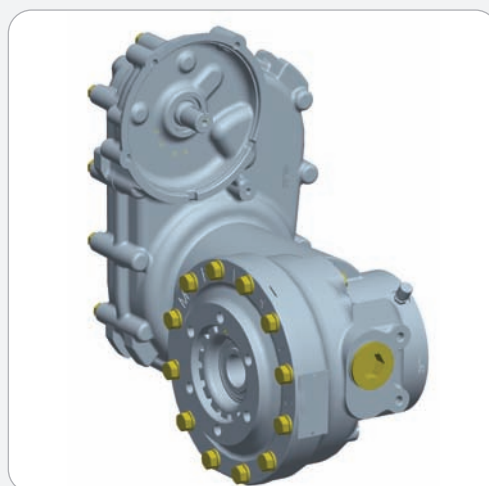
Vehicle:	Bluecar
Driveline layout:	Front wheel drive, front transversal electric motor coupled with gearbox
Product:	Transaxle
Motor features:	50 kW, max. speed 12000 rpm, max. torque 140 Nm
Gearbox features:	Double stage reduction Total reduction ratio 1:9.995



CUSTOMER

Taylor Dunn

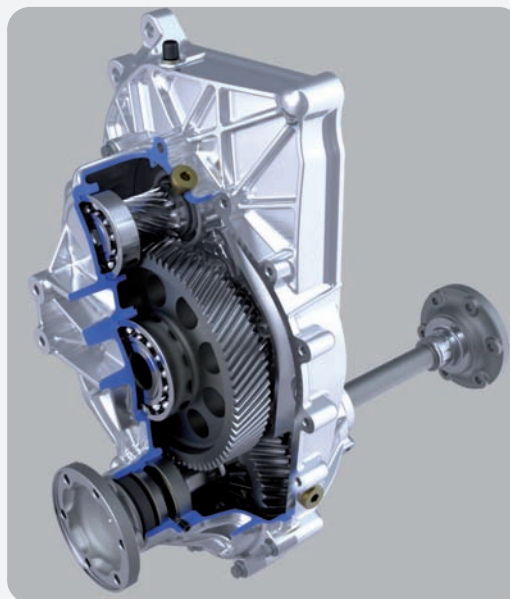
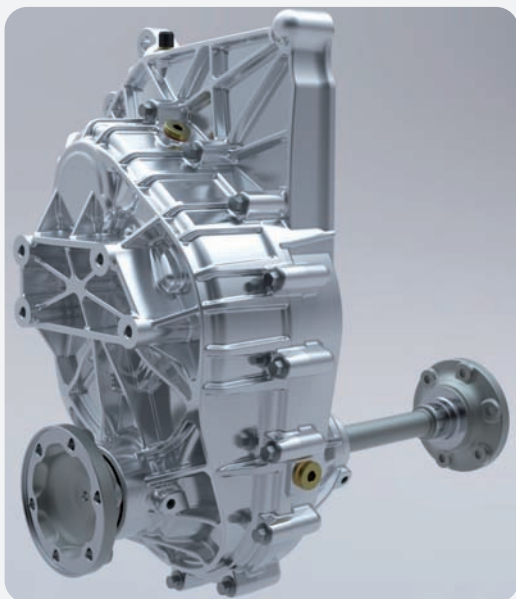
Vehicle:	Electric heavy utility vehicle
Driveline layout:	Rear wheel drive, rear longitudinal electric motor coupled with transaxle
Product:	Transaxle
Motor features:	12 kW, 48 volt DC, max. speed 6250 rpm
Gearbox features:	Spur gear drop box coupled with hypoid bevel set on differential Total reduction ratios 1:12.05-1:15.04-1:18.29 1:24.49-1:29.85 Gross axle weight 2365 kg Gross vehicle weight 3100 kg



CUSTOMER

Zytek

Vehicle:	Electric light commercial vehicle
Driveline layout:	Front wheel drive, front transversal electric motor coupled with gearbox
Product:	Transaxle
Motor features:	Zytek 70 kW, max. speed 8000 rpm, max. torque 300 Nm
Gearbox features:	Double stage reduction Total reduction ratio 1:8.29



4 Speed seamless shift transaxle

Vehicle:	High Performance electric GT
Driveline layout:	Rear wheel drive, 2 rear transversal electric motors coupled with gearbox
Product:	4 Speed seamless shift transaxle
Motor features:	2 x 125 kW, max. speed 10000 rpm, max. torque 480 Nm (total 2 x 240 Nm)
Ratios:	I=2.483, II=1.659, III=1.178, IV=0.894, FDR=4.000
Gearbox features:	Clutch and synchroniser-less with seamless shift



Transaxle or inline transmission

Vehicle:	High Performance electric GT
Driveline layout:	Rear wheel drive, 2 rear transversal electric motors coupled with gearboxes
Product:	Transaxle or inline transmission
Motor features:	2 x 140 kW, max. speed 12000 rpm, max. torque 410 Nm
Gearbox features:	Compact planetary gearset Integral motor / transmission water cooling Total reduction ratio 1:6



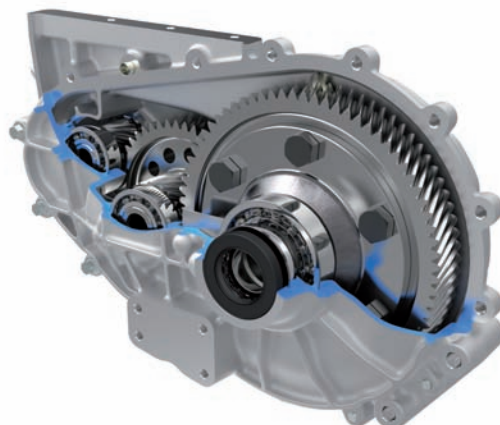
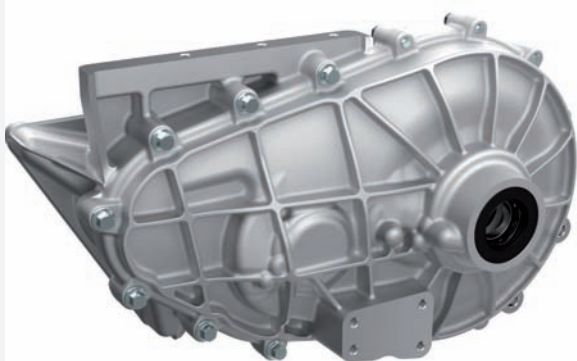
2 Speed transaxle

Vehicle:	Scalable size from passenger car to light commercial vehicle
Driveline layout:	Transversal electric motor coupled with gearbox, for front or rear full electric axle
Product:	Transaxle
Motor features:	Max. power from 70 to 110 kW, max. torque from 250 to 300 Nm, max. speed from 8000 to 12000 rpm
Ratios:	First total reduction ratio 1:10.1 to 1:11.36 Second total reduction ratio 1:4.46 to 1:5.51
Gearbox features:	Double stage reduction 2 speeds with seamless gearshift Park lock function available



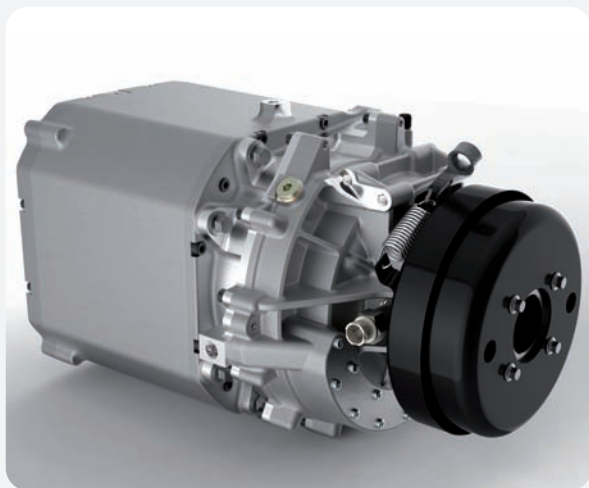
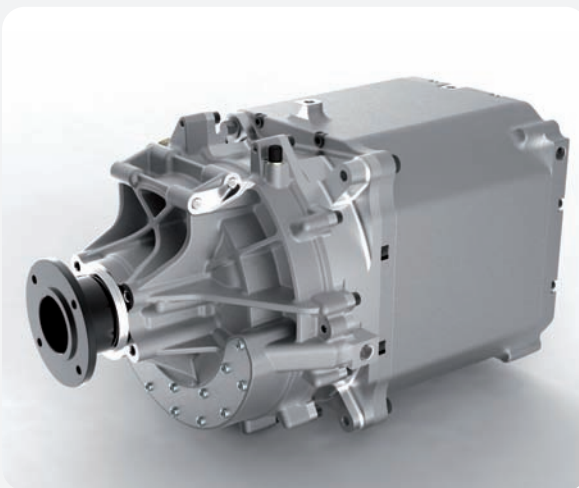
Transaxle

Vehicle:	Electric passenger vehicle
Driveline layout:	Rear wheel drive, rear transversal electric motor coupled with gearbox
Product:	Transaxle
Motor features:	Zytek 25 kW, max. speed 14000 rpm, max. torque 65 Nm
Gearbox features:	Double stage reduction Total reduction ratio 1:14.103



Inline epicyclic transmission

Vehicle:	Electric light commercial vehicle
Driveline layout:	Rear wheel drive, longitudinal electric motor coupled with gearbox
Product:	Inline epicyclic transmission
Motor features:	70 kW, max. speed 8000 rpm, max. torque 300 Nm
Gearbox features:	Compact planetary gearset Integral motor / transmission water cooling Total reduction ratio 1:3.1



TMS 20 Transmission and Driveline Controller

Electrical

- Supply Voltage 6.5V to 24VDC
- Modular, Expandable, and Future-proof hardware architecture

Mechanical

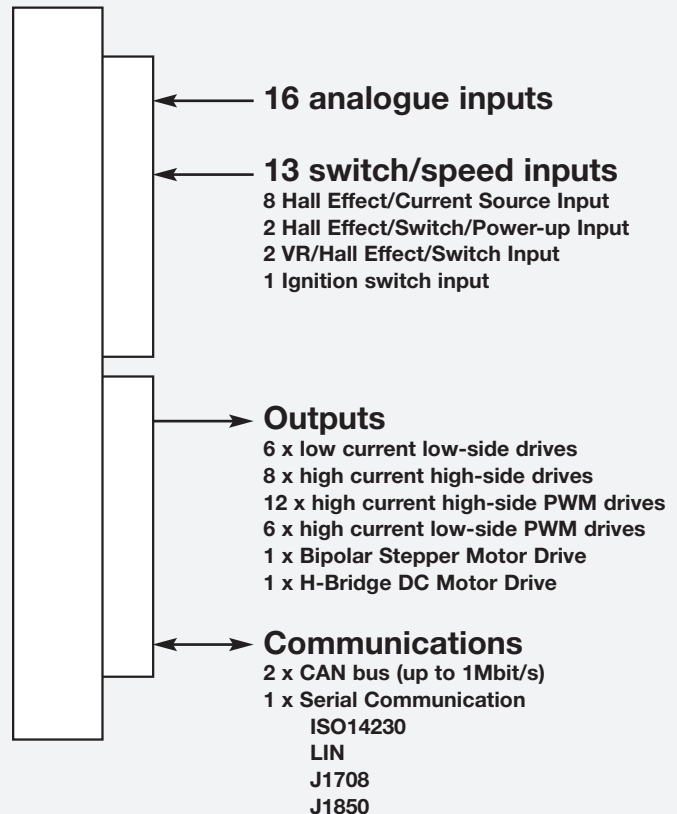
- Rugged hard anodised aluminium case
- Ambient operating temp -30C to +105C
- Sealing IP6K6
- Weight 1150g

Connection

- Industry standard 121-way connector

Other Features

- Supports rapid-prototyping software tools
- Resident O/S kernel boot-loader
- Support for CCP/XCP CAN-based calibration and data-logging tools
- Full access to all hardware features for your control methods
- High-Level algorithms can be developed using MATLAB/SIMULINK™ or ETAS ASCET



Oerlikon Graziano SpA

Via Cumiana 14 - 10098 Rivoli (Turin-Italy)
Phone +39.011.9570.1 - Fax +39.011.9570.240
info@grazianotrasmissioni.it
www.oerlikon.com/graziano
www.oerlikon.com

Vocis Driveline Controls

American Barns, Banbury Road
Lighthorne, Warwick, CV35 0AE
Phone +44 (0) 1926 650308
Fax +44 (0) 1926 652829
www.vocis.co.uk