



# DriveSWing DRS-10

ATO over ETCS

- Interoperable solution meeting UNISIG GoA2 specifications
- Combined operation of trains equipped with DriveSWing ATO, TrainSWing RBA-10 and ERTMS/ETCS
- Suitable for passenger trains (intercity, suburban and regional)
- Suitable for freight trains
- Increased safety and traffic flow
- Increased capacity of railway lines
- Decreased demand on train driver – less stress, less faults
- Modular structure for GoA4
- Environmentally friendly – decreased CO<sub>2</sub> emissions by 10-30%
- Compatibility with ETCS L3
- Proven solution



## GENERAL DESCRIPTION

DriveSWing DRS-10 (further DRS-10) is the system designed for increasing the level of automation of railway vehicle operation.

DRS-10 is connected with centralized traffic control CTC/TOC (e.g.

TrafficSWing DOZ + TrafficSWing GTN) and provides actual route map and timetable for ATO onboard. Data transmission is provided via GSM-R network.

ATO onboard (e.g. DriveSWing CRV&AVW) coordinates a movement permission and train location with ETCS OBU.

DRS-10 combines and connects an advantages of DriveSWing CRV&AVW, TrainSWing RBA-10 and stationary and onboard part of ERTMS/ETCS.

ATO (DriveSWing CRV&AVW) has been proven by commercial operation for more than 25 years on main lines and in more than 300 railway vehicles.

## BASIC TECHNICAL DESCRIPTION

DRS-10 provides target braking with stopping accuracy  $\pm 0,5$  m.

DRS-10 controls train movements between stations according to defined arrival with time accuracy ( $\pm 5$  sec) and with minimum energy consumption.

DRS-10 is interoperable system according to TSI specifications (2022).

DRS-10 communicates with:

- ATO balises
- ETCS balises
- Virtual balises





## BASIC TECHNICAL PARAMETERS

Speed maintaining accuracy	± 1 kmph
Stopping accuracy at station	typically ± 0,5 m
Arrival time accuracy	typically ± 5 s
Traction energy saving	typically 10 to 30 %
Number of controlled vehicles/carriages in train set	unlimited
Service life	more than 25 years

