TECHNICAL DETAILS: TRAFFIC LIGHT CONTROLLER *ACTROS*

GEHÄUSE (OPTIONAL):	
Standard cabinet with / without public utility part	Size 1, 2, 3 as per DIN 43629 Part 1, IP54
Public utility part	as per TAB 2007, IP54
CONTROL ELECTRONICS:	
Max. number of signal groups	64
Max. number of lamp outputs	288
Number of lamp outputs per control board	24
Max. number of I/Os	288
Number of I/Os per I/O card	16 inputs + 8 outputs, 32 inputs + 32 outputs
Traffic-related control	Fixed time program, clock control, signal group, and phase-oriented, traffic-dependent control, coordinated activation point control LISA+, or freely programmable in Java control elements such as VS-PLUS, PDMe/TL, MOTIONe, TRELAN/TRENDS, BALANCE; TS 2000, FESA
Central operation / interface	OCIT, V1.1, V2.0 and V3.0, as well as Profile 2 and Profile 3, *ACTROS.connect,* SB12, SB15, SB16, VnetS, SSI, DVI 35, CANTO, OSZ 2 and 3, C2X ready
Operation	Control unit, integratable manual control unit, web server
System clock	0.5 s, 1 s
Signal sequence	Freely programmable, standard as per guidelines for traffic signal systems (RiLSA)
Public transport	R09 messages according to the VÖV 04.05.1 standard
Signal safeguarding	Designed with fail-safe technology; current and voltage monitoring of all lamp outputs as per DIN VDE 0832 Part 100 and guidelines for traffic signal systems (RiLSA)
POWER ELECTRONICS:	
Max. power consumption without lamp wattage	Typ. 50 VA, max. 300 W
Mains voltage	230 V (-15 … +10%), 115 V (-15... +10%)
Power frequency	50 Hz (-5 … +5%); 60 V (-5... +5%)
Permissible lamp voltages	10 V / 40 V (OCIT-LED conformant) / 42 V (ASTRIN-Standard) / 230 V
Lamp wattage per signal output	12 to 460 W at 230 V and 10 V, 1 to 40 W in the case of 40 V LED signal transmitters
Max. lamp wattage per signal output	460 W or 2 A
Max. lamp wattage per control unit	3,000 W or 13 A
***ACTROS.line*: FEATURES DECENTRALISED TECHNOLOGY**	
Max. number of independent bus lines	24
Max. number of external modules per bus line	15
Number of lamp outputs per external printed switch circuit	6
Number of inputs per external printed switch circuit	4
Max. length of a bus line	1000 m
Signalling device types	40 V OCIT-LED signalling devices
ENVIRONMENTAL CONDITIONS:	
Temperature Range	-40°C - +60°C
CERTIFICATION:	
TÜV Rheinland	DIN VDE 0832-100: 2010, DIN VDE V 0832-110: 2013, DIN V VDE V 0832-500: 2008, EN12675: 2015, SIL3 acc. EN 61508 (Part 1 to 7): 2010, EN50556:2011

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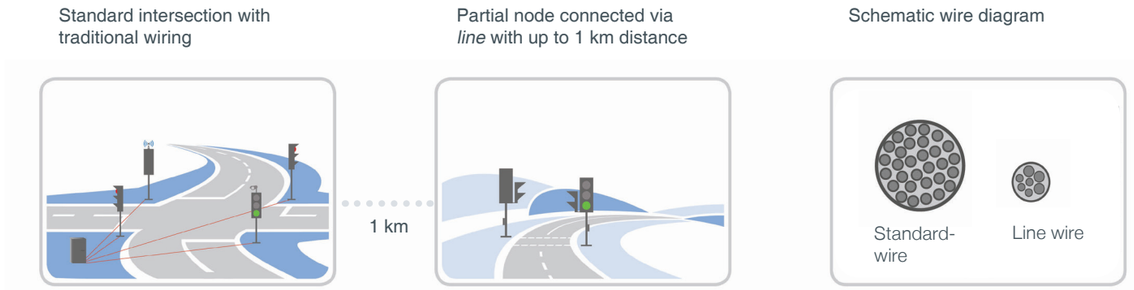
SWARCO TRAFFIC SYSTEMS

ACTROS.line
Your direct path to an energy-efficient future

SWARCO I First in Traffic Solutions.

TREND-SETTING FOR TRAFFIC, CLIMATE & ENERGY



Energy efficiency

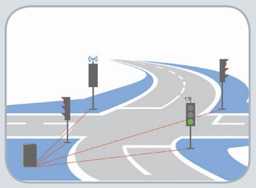
Energy efficiency and low operating costs are the watchwords of our time. In cities, which have a variety of intersection designs, modern SWARCO traffic light systems with low signal head power consumption can be installed and paired with line technology to bring a new impetus and save energy costs.

„low energy“ is the future

ACTROS.line technology enables your existing systems to work safely in combined operation with new systems. Whether using conventional 230 V, up-to-date 40 V LED technologies or futuristic signal heads with power consumption of only 1 watt, with *ACTROS.line*, your installations will be equipped for the future.

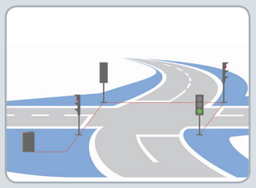
The *ACTROS.line* connection via CAN-bus allows the *(ACTROS.energyline)* power cables that are already installed to be used via the existing signal heads and partitions, thus making complex underground engineering work a thing of the past. The signal heads can be up to 1 km away from the control unit in this configuration. This means that you can extend your system by adding a signal head or a partition at minimal cost at any time.

With *ACTROS.line* and the redevelopment of the LS4000 CPU, SWARCO has taken another step towards innovativ low energy technology.



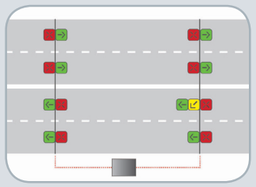
Investment safety with *energyline*

The *ACTROS.line* technology does not rule out the use of existing infrastructure.
During the development of *ACTROS.line*, great emphasis was placed on the re-use of available wiring and peripherals, thereby protecting your investment.
ACTROS.line can easily be used at existing intersections, and can even be deployed temporarily as a construction site system with the technology that is already in place. The decentralized technology includes comprises signal heads and detectors



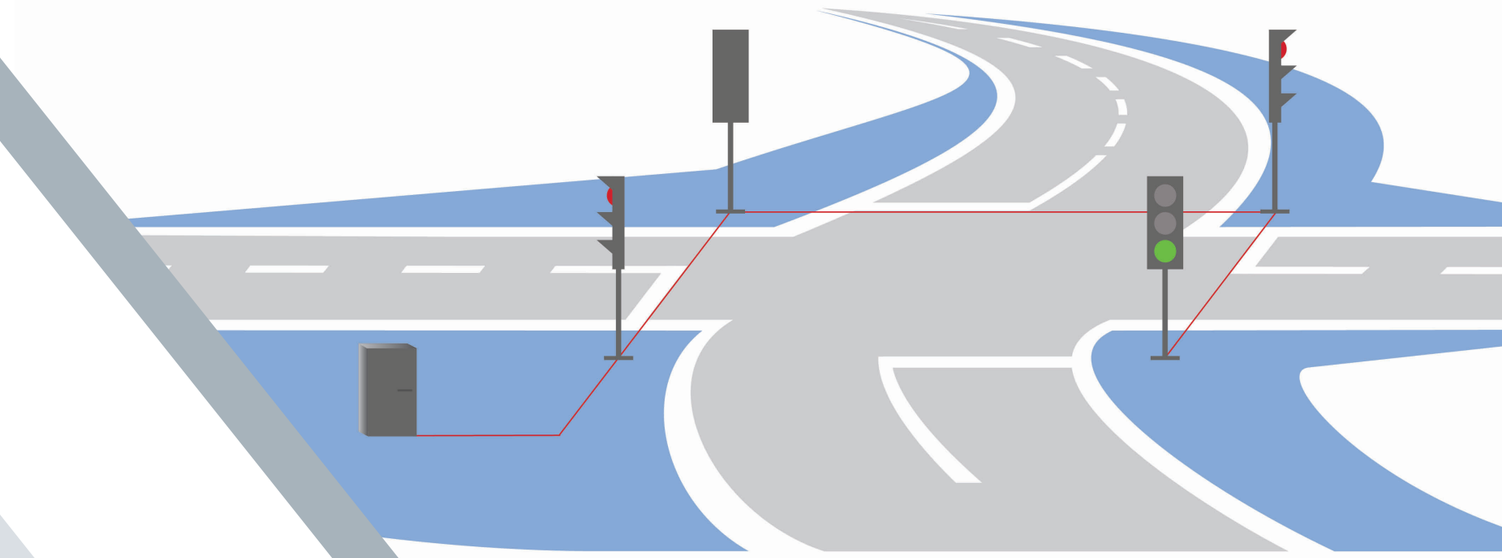
The perfect solution right from the start

ACTROS.line creates completely new possibilities for temporary traffic signals, such as on large construction sites or for the reconstruction of an existing system. The compatibility of the line with existing technology offers flexible, cost effective solutions at construction sites, without comprising functionality. The traffic benefits from the fact that existing signaling layouts can be used and the wiring of the system is routed above the ground. The standard *ACTROS.line* controller can be used during construction and later in standard operation. (Example of temporary use: Gotthard Pass road construction site [DriveOn 01/2016] and cover image)



Special applications

ACTROS.line is extremely flexible and can also provide special solutions, such as supplying variable lane signaling over long sections using a single traffic controller.



Thanks to the wire-saving CAN bus technology, *ACTROS.line* technology requires limited underground engineering work in new constructions.

The continued use of existing cables enables currently installed systems to be extended at low cost.