Veer Motion Solutions

Skilled LGV

Skilled® Group

Think. Make. Move!

www.vms.nu

Skilled LGV

Skilled LGV is a Laser Guided Vehicle system which, together with the palletizing systems SKILLED ROBOTS, allows complete ”end of line” automation. This results in cost savings and significant improvements in production management.

Skilled LGV offers the following advantages:

Transportation of different products and pallets, coming from different production lines, from and to the storage and trucking area (with total exclusion of conveyor work);

Compliance with the current safety rules and regulations;
Thanks to its modularity the system can easily be adapted to future production needs;

Extremely easy installation at customer’s site, that saves productivity time.

Models

1400XL

1400

1000

800

Distinctive features of the different models and sizes

SKILLED 800 S or M model with counterbalance and wheels included in the machine's frame
Standard lifting height up to: 1000 mm-S/1500mm-M
Loading capacity up to: 500 kg-S/800Kg-M

SKILLED 1000 M or L model with counterbalance and wheels included in the machine's frame
Standard lifting height up to: 2000 mm-M/4000mm-L
Loading capacity up to: 1200 kg-M/1500Kg-L

SKILLED 1400 M or L model with advanced wheels
Standard lifting height up to: 2500 mm-M/4000mm-L
Loading capacity up to: 1500 kg-M/2500Kg-L

SKILLED 1400 XL with counterbalance and wheels included in the machine's frame
Standard lifting height up to: 4000 mm-M/8500mm-L
Loading capacity up to: 1500 kg-M/1800Kg-L

NOTE: Min. and max. loading capacity is depending on the lifting height.

OPTIONS
Possibility to have the top pressure for unstable pallets.
Battery : manual change, automatic change, independent automatic re-charging.

General features	Description
Type of battery:	Gel / Lead
Driving system:	Motors 48 V DC
Wheel configuration :	3 wheels, 1 with single steering
Frame:	Steel
Brake system:	Electromagnetic on motor's shaft
Precision:	± 10 mm
Speed range:	1,8 m/sec
Standard pallet handling:	1200x800 , 1200x1000
Fork lifting speed:	a from 0,1 m/s to 0,5 m/s

Software and controls

Stationary master controller unit
The Master Controller Unit consists of a PC running Windows which constantly maintains the contact between the central control unit and the vehicle. The most important activities are:

- Communication with the vehicles;
- Receipt of orders;
- Optimization of Skilled LGV's time and functions;
- Management of vehicle's traffic.

The operator can monitor, on a graphic display, the position and the state of Skilled LGV, at any time.

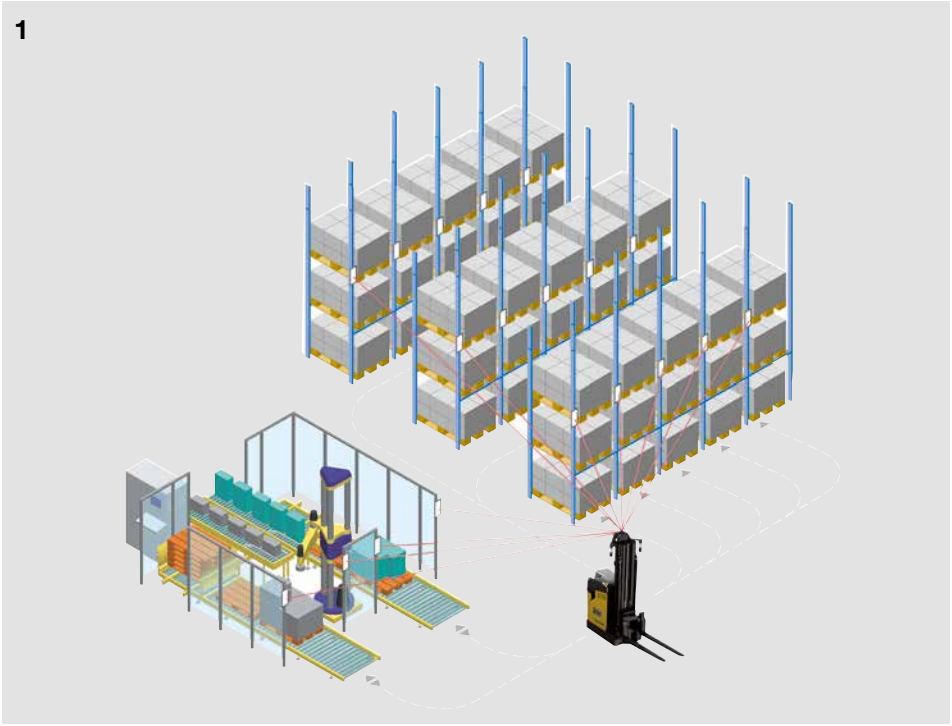
Stationary master controller unit
The Master Controller Unit consists of a PC running Windows which constantly maintains the contact between the central control unit and the vehicle. The most important activities are:

- Communication with the vehicles;
- Receipt of orders;
- Optimization of Skilled LGV's time and functions;
- Management of vehicle's traffic.

The operator can monitor, on a graphic display, the position and the state of Skilled LGV, at any time.

Laser Navigation System

1



2

3

4

4a

5

PLC Skilled LGV movement control EUROIMPIANTI

Motorwheel	BORGHI	Safety laser scanner	SICK
Motors drive	SAUER DANFOSS	Battery	SONNENSCHEIN
Laser scanner	SICK	Battery charger	ACCU ITALIA
Operator panel	EUROIMPIANTI	Safety	PLC SICK
Encoder	SICK, HENGSTLER	Skilled LGV limit switch	ERSCE
Photocells	SICK		

The laser guiding system is similar to an electronic “eye” which, by means of reflectors positioned on the surrounding walls uses “triangulation” to determine the exact position of the vehicle to allow it to carry out is required tasks in the operating area.
Advantages:
- No floor works required (magnetic tape/coloured tapes or lines, etc)
- Route changes can be easily made via CAD system

1 - Laser scanner
The position of the vehicle is updated 8 times a second to ensure supreme accuracy. A sophisticated filtering system excludes reflected signals from other sources such as bright walls, windows, etc. The security class 1 laser is harmless to humans and is not visible to the naked eye.

2 - Vehicle control
This unit carries out the following functions:
- Laser scanner interface;
- Driving wheel speed control;
- Management of pallet loading and unloading with possibility of personalizing the sequence by programming the inner PLC;
- Communication with radio remote control and the control unit;
- Communication with the stationary control unit.

3 - Radio communication
The radio is a client Ethernet wireless (WLAN) that communicates with the other machines connected to the installation Ethernet through one or more access points. The standard communication WIFI uses a frequency of 2,4Ghz or 5Ghz which does not require any official authorization.

4 - Control unit
The control unit has been designed so that the operator can carry out non-automatic operations and display vehicle status and diagnostics. The 15” screen is large, ergonomic, with “touch” commands and anti-reflective opaque glass.
The icons are big and intuitive.

In particular, the following functions are available:
• Display of vehicle position;
• Display and control of operating mode
• Display of I/O status
• Display of diagnostics and alarms
• Synoptic 3D with graphic information on the vehicle
• Self- insertion on the programmed plan

4a - Radio remote control to move the vehicle manually.
• Drive speed controlled by the inclination angle.
• Vibration of the transmitter indicates the activation of the inclination function and the speed
• innovative and useful micro joystick
• 4 single-step buttons, including 2 buttons for pre-selection.
• Intelligent frequency management (2,4 GHz technology).
• Micro / orthogonal drive (pre-selection).
• STOP impact switch.
• LED for the indication of operation/ battery status.
• Rechargeable NiMH exchange battery, ca. 11 hours of continuous operating time
• Robust plastic housing, protection class IP 65.
• Shock-off / zero-g

5 - Safety Devices
Euroimpianti is very perceptive to the safety of the working environment. The Skilled LGV is equipped with 3 anti-collision PLS sensors.

Advantages:
- possibility of adapting the monitoring safety range directly to the dangerous area of the machine;
- easy access to working area, due to the absence of receivers or supplementary reflectors;
- the safety area is dynamic and can be set up following the different requirements of the system;
- the action area of the safety system changes automatically following the direction and the mode (manual/automatic) of the Skilled LGV. Moreover the reading distance of this area increases in proportion to a moving speed.

Remote Service Support

All the systems can be equipped with VPN SERVICE, through which the customer can connect via Internet with Euroimpianti’s After-sale Service for a prompt diagnosis and resolution of many problems. The VPN SERVICE can also be used to update the software and to monitor the functioning of the system.

Daltonstraat 20A
3846 BX Harderwijk (NL)

Postbus 9060, 3840 GB Harderwijk (NL)

+ 31 85 760 8960 | info@vms.nu

www.vms.nu