



Hirschmann. Simply a good Connection.

## GDM Valve Connectors in Road Construction.

### Project

#### GDM Valve Connectors in Plants for Road Construction

The core business of Wirtgen GmbH is the development and manufacturing of machines and equipment for road construction. In this segment of the construction sector, Wirtgen offers a unique depth of solid expertise. The product spectrum ranges from cold milling machines, soil stabilizers and cold recyclers, hot recyclers, slipform pavers through to surface miners in mining and surface mining.

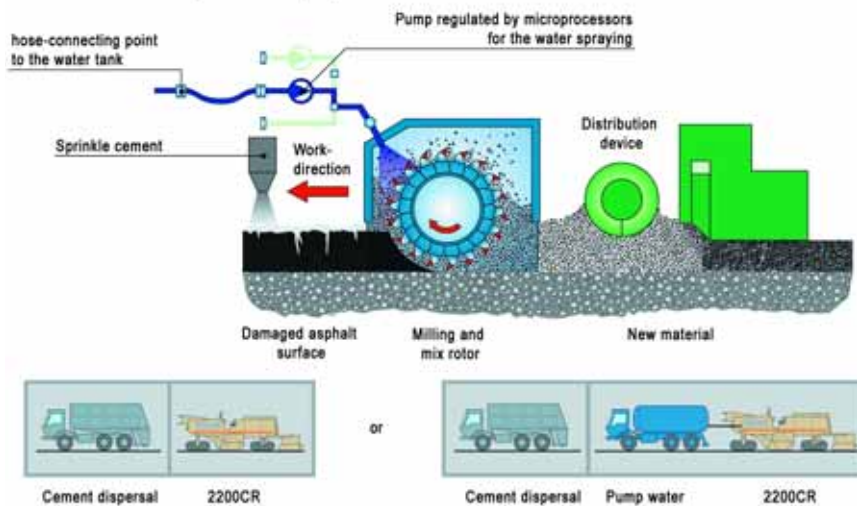


Wirtgen Cold Recycler 2200CR



### Work procedure

#### Cement dispersal; Spray dosed water above the 2200CR



### Key products



GDM-Valve Connectors



GSA-Appliance Connector

# Project details:

The cold recycler 2200 CR from Wirtgen is the ideal device for all construction projects requiring a simple and cost-effective start in cold recycling technology. The machine is a high performance cold milling machine for the removal of asphalt layers of up to 35 cm and can be used as a cold recycler without requiring alteration.



Hirschmann GDM Valve Connectors

## Project parameters

The heart of the cold recycler is a milling cylinder, which mills out the layers of tarmac in a robust milling and mixing room and mixes them with bonding agents. The diverse range of possibilities for the addition of different bonding agents was taken into account. Depending on which bonding agent is used, different injection systems are available. The picture on the previous page shows one possible procedure as an example (processing of the road through water and cement). The procedure specified in a single work step (instead of milling out, transportation, return, installation) saves time, energy, resources and last but not least spares the nerves of the driver as the traffic hindrances are also significantly reduced.

## Requirements

- Vibration stability
- Resistance against dirt, moisture and temperature influences
- Hirschmann Electronics provides Wirtgen with simple assembly and reliability e.g. for the cold recycler 2200 CR standard types of the high-voltage protected GDML and the connectors of the GSA series. The Wirtgen company places particular importance on the strength and security against failure provided by Hirschmann connectors under the harshest conditions.

## Solution

Hirschmann supplies Wirtgen with standard models of the high voltage protected GDML and the connectors of the GSA series ( e.g. for the cold recycler 2200 CR). Wirtgen places particular importance on the strength and security against failure offered by the Hirschmann connectors under the harshest working conditions.

## Why Hirschmann?

Reasons for deciding in favor of Hirschmann valve connectors:

- High flexibility with regard to cable lengths
- Uncompromising safety
- Available in Types A, B, C
- For voltages of up to 400 V (Type A) / 250 V (Type B, C)
- Easy assembly thanks to the large cable connection space
- Freely combinable or available with sprayed plug
- Protection class up to IP 67

### Germany

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## FIXCON® – Quick connection for transducers.

### Project

#### Reliable, robust, accurat

Novotechnik, a member of the Siedle Group based in Ostfildern, Germany, develops and manufactures position transducers, angle sensors, signal processing equipment and automotive products. The company's LWG position transducers are fitted with the new FIXCON®connectors, which combine maximum reliability and extreme ease of use. LWGs are used in the engineering and automotive industries as well as in the robot and automation fields, and are characterized by great robustness and high accuracy.



Beach technology



### Applications



### Key products



Position pickup with FIXCON®connector (alternatively also usable with M12 connector)



FIXCON®-connectors Socket, angled



Socket, straight



Flanged connector

# Project details:

The position transducers are precision sensors with resistor elements made of conductive plastic, coated on a glass fiber reinforced carrier profile. The voltage supply and data signals are carried by circular connectors from the FIXCON® series. Their compatibility with standardized M12 connectors means users are ensured a high degree of reliability and flexibility.



Application: Metal bonding and forming

## Project parameters

Versatile application of the FIXCON®-components in the engineering and automotive industries:

- Beach cleaning vehicles: Lowering a sieve box with pickup roller
- Duroplast hydraulic press: Detecting the movement of the hydraulic bar
- Stone grinding machinery: Detecting the position of the grinding head, signal processing by PLC
- The "London Eye" big wheel: Level control between the access ramp and the pods
- Roller cutting and reeling machine: Monitoring of the tension roller, signal processing by PLC to control the motor
- Tractor: Controlling weeds in the field, precision positioning of the blades
- Metal bonding and forming: Measurements in the metal forming process for battery casings

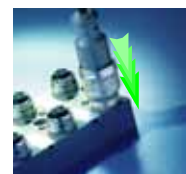
## Requirements

- Vibration proof
- Resistant to dirt and fluids
- Resistant to effects of temperature
- Easy to fit, user friendly
- Reliability
- High repetition accuracy
- Flexibility

## Solution



... Plugging



... Latching



... Locking

## Why Hirschmann?

- Compatibility: Common M12x1 connectors and FIXCON® components combinable
- Quick fitting without screws: Plug in, lock and go
- Space-saving: Fits in the tightest confines
- Safety: Locking mechanism prevents accidental disconnection

## References

- Automotive industry
- Mechanical engineering
- Hydraulics and pneumatics

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## NR series connectors for identification systems.

### Project

#### RF identification systems for automation systems

Siemens A&D manufactures MOBY RF identification systems for automation systems at its facility in Fürth, Germany. These devices are used in logistics, on assembly lines, in production and in materials handling to identify pallets, containers, component transporters, product carriers or monorail suspended conveyors. The MOBY identification systems control and optimize material flow. They provide reliable identification and store data directly on the product.



Siemens photo: Paintshop



### Applications



### Key products



6-pin equipment connector  
N6R AM 2 D



11-pin equipment connector  
N11R AM 2 D



6-pin angled socket  
N6R FF



11-pin angled socket  
N11R FF

# Project details:

In its new MOBY-U generation of devices Siemens places its trust in the tried and proven NR series from Hirschmann. The power supply and the data on the reader/writer units are routed via the equipment connector N6R AM 2 D, and for service functions the 11-pin N11R AM 2 D is used.

The MOBY identification systems comprise:

- Mobile data storage
- Reader/writer unit
- Interface module



Use of MOBY devices on an assembly line producing SIRIUS contactors at Siemens Amberg

## Project parameters

The mobile data storage devices are mounted on the product and receive all application-specific data by non-contact transfer. Up to 32 kB of data can be stored and then read and edited as required on the individual stations. The reader/writer units provide the data transfer between the mobile data storage and higher-level systems. The data, and the power, is transmitted inductively by way of an alternating electromagnetic field generated by the reader/writer unit. The interface module integrates the MOBY identification systems into any higher-level systems.

## Requirements

Both the existing MOBY devices and the new MOBY-U systems should be capable of being fitted with the same connectors. Based on the different housings and differing Siemens manufacturing methods, the equipment connectors must meet the following requirements:

- To save space, the angled sockets N6R FF and N11R FF must have a defined cable outlet. This requires fitting of an anti-rotation edge to the housing surfaces of equipment connectors N6R AM 2 D and N11R AM 2 D, taking account of the differing orientation of the PEs to the anti-rotation element surface in the 6-pin version relative to the 11-pin version.

- There are two common methods of attaching the equipment connectors in the MOBY housings:
  - by lock nuts
  - the connectors are screwed into the housing. For this, the threads should be designed to provide the defined cable outlet.
- As the housings are no longer cast, the hexagonal outer contour of the standard version is to be replaced by a rounded shape, in order to prevent unauthorized fitting.

## Solution

Hirschmann is producing new tools in order to meet the customer's needs with regard to the NR series.

## Why Hirschmann?

In summary, the following factors favor use of the Hirschmann connectors:

- Robust, industrial-standard connector series
- Pins fitted liquid-tight
- 6-pin and 11-pin versions available
- Flexibility to meet customer's needs

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## CA-Connector Plugs in the Greenhouse.

### Project

The new ELGO-Lights for the lighting of plants in greenhouses.

The lighting equipment manufacturer "ELGO" from Gostynin is one of the largest Polish manufacturers of road, park, interior and industrial lighting. The company has been active in the lighting industry since its founding in 1958. The high quality of the products is backed by the certificate BS EN ISO 9001:2000. The first step in the project consisted of 1,000 specialty lights for the lighting of plants in greenhouses with 4000 CA-connector plugs from Hirschmann. The plugs support the high security class IP67.



*Plants in the greenhouses with specialty lights*

**JBC-electronic**   
AUTOMATYKA - ELEKTRONIKA - POMIARY

### Application



### Key products



CA 3 LD



CA 3 LS



CA 3 GD



CA 3 GS

# Project details:

The ELGO specialty lights for the lighting of plants in greenhouses are produced from the highest quality material available. Only durable components from proven global manufacturers are used for the lighting equipment. This guarantees reliable operation of the lights with a low energy consumption.



Lights for the lighting of plants fitted with CA-connector plugs

## Project parameters

- 1,000 specialty lights for the lighting of plants in greenhouses.
- Latest offering from ELGO: the lighting equipment ELGO-FLORA from the types ORSa, ORSc (one part) and ORSb, ORSd (two parts), stand out for their lighting efficiency and high protection class IP 65/21. In the two-part lighting models, the lamp housings are installed separately.
- Modern construction of the ELGO-FLORA lights enables the use of high pressure sodium lamps with internal reflectors.  
There are also light models, which work with conventional high pressure sodium lamps. In these lights a small reflector is installed which is covered in metal and guarantees a suitable flow of light.

## Requirements

- Modern and aesthetic design
- Effective configurations of light beams on the plants
- Consistent level of light
- Small format, ensuring that only small shade patches are thrown onto the crop.
- "Breathing" filters in the lights enable the air pressure within the lights to be adapted to the environment.

## Solution

- 4,000 CA-connector plugs from Hirschmann
- The new specialty lights were equipped with industrial connector plugs from Hirschmann's CA range, which reach a protection class of IP67: cable and insert connectors and sockets, as well as a protective cap (protection against dust and mildew after the disconnecting the connection).
- Aluminum parts and other durable materials guarantee good cooling, protect the light source and the electrical accessories from damage and other external influences within the greenhouse.

## Why Hirschmann?

- Simplicity and safety
- Removable plate with electrical accessories, simple to replace.
- Easy disconnection from power supply.
- Automatic disconnection from power supply, if the end caps are pulled out.

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# SunCon in the photovoltaic plant "Stoiadler III".

## Project

In the south of Germany, the community of interests "Stoiadler" work together on projects with the aim of producing equal-zero-emission power.

In May 2006 a photovoltaic plant was installed in the municipality of Großbettingen, near Stuttgart, with a capacity of 26KWp. The plant was mounted on a road noise barrier that when connected contributes to the local power supply system.

The cabling and connection of the photovoltaic modules was achieved with the Hirschmann SunCon System.



Photovoltaic plant "Stoiadler III" in Großbettingen, near Stuttgart.



## Applications



SunCon Montage Case

## Key products



SunCon BM5258

SunCon BF5258

SunCon BMI

SunCon BF1



SunCon BMY

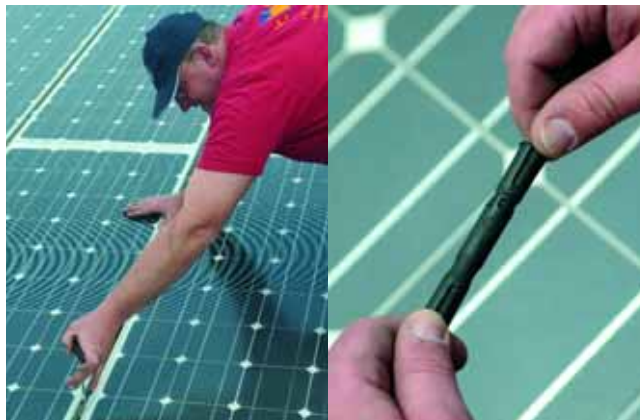
SunCon BFY

SunCon Base XZC 40

# Project details:

The capacity of the photovoltaic plant "Stoiadler III" is around 26KWp. This approximates to an annual production of about 27.000KWh and would be enough to cover the yearly energy needs of 7 average family households.

The CO<sub>2</sub> reduction represents approximately 15.000KG a year. The investment volume amounts to around 175.000 Euro.



*On the roofs, ready go: The complete installation of the photovoltaic plant is rapidly achieved thanks to the SunCon connector technology.*

## Project parameters

The SunCon System provides fast and easy connection for all photovoltaic installations and is ideally suited to harsh environments, and exposure to extremes of temperature and weather. Reliable maintenance-free, efficient operation, combined with their low-loss conductivity. It satisfied all stringent requirements for the "Stoiadler III" photovoltaic project.

## Requirements

- Maintenance free reliable, robust connectors for the installation's lifetime. (Protection class IP68)
- Easy de-connection when required
- Rated voltage up to 1000V DC
- Current carrying capacity 23A for 85°C
- TÜV-certified components

## Solution

- Circa 200 modules of type SF 115 and SF 150 with the corresponding SunCon connectors (SunCon BM5258 and SunCon BF5258)
- 5 inverter Solplus 50 with the corresponding SunCon appliance plugs (SunCon BMI und BFI)

## Why Hirschmann?

- Quick and easy assembly of the connectors on site or already mounted ex factory
- Few component for ease and speed of assembly
- Optimal price/performance ratio
- Low transmission loss
- Comprehensive Installation Kit for site engineers available includes case, crimp tool and connectors

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