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Sumitomo (SHI) Demag

activeRemote - automation made easier via visual integration of peripheral devices

The latest innovation from Sumitomo (SHI) Demag is an expansion of the simple operation of robot and peripheral device technology via its tried and tested NC5 control.

By expanding their NC5 control to become an integrated switching centre, Sumitomo (SHI) Demag is providing users of their injection moulding machines with greater flexibility in **controlling and integrating peripheral technology of all kinds**. The basis for this are the many interfaces provided by the NC5 control, which serves as the host for integrating useful functions and the widest range of partner systems. Devices which can be easily integrated include robots for part handling, production planning systems (PPS) or main computer systems, peripheral devices or systems for process control and quality assurance.

VNC integration of partner systems

The control interfaces of **many peripheral devices and partner systems** are integrated into the new NC5 control of the injection moulding machines via Virtual Network Computing (VNC) and can be operated there equally as well as with the actual control itself. Sumitomo (SHI) Demag has correspondingly recently developed solutions in conjunction with Wittmann Plastic Devices, Sepro Robotique, Wemo, Primus System Technologies, GWK, Kistler, ONI Wärmestraße and T.I.G. Technische Information Systems.

Preparations are already being made for further systems to be implemented in collaboration with partner companies. The capturing, processing and visualisation of production and process data allows for comprehensive supervision and control in every single production phase.

Disturbances in the course of production immediately become visible and can be rectified, before reject parts are unnecessarily created. Sumitomo (SHI) Demag presented this at their stand at the 2010 K show, when all machines were connected to the of T.I.G. Technische Informationssysteme GmbH system.

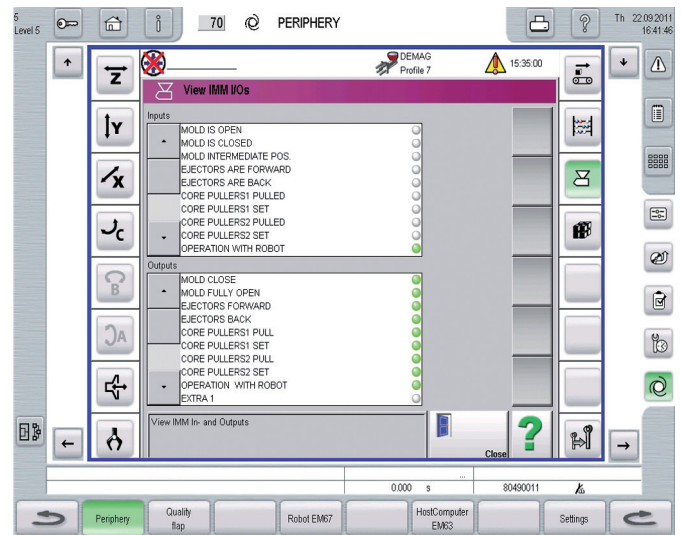
Integrated robots

The SDR series of integrated robots in six versions possesses all the mechanical, electrical and pneumatic interfaces required for integration with the Systec and IntElect injection moulding machines. The mechanical and actuator engineering of the SDR 11 to SDR 66 robot series is based on the robot series of the French manufacturer, Sepro Robotique. "Visual 2" is used to control the SDR robots and this **is integrated into the NC5 control and can be fully operated** by the control. This integration **simplifies operability and increases the efficiency** of the entire system.

The SDR handling devices round off Sumitomo (SHI) Demag's already well known range of three axis robots. The DR7 and DR8 series developed jointly with the Austrian company Wittmann Kunststoffgeräte GmbH are still offered in the system range. This means that Sumitomo (SHI) Demag offers its customers and system partners a wide variety of products in terms of ex works automated injection moulding machines. In addition to the DR and SDR robots, **linear robots from other manufacturers** such as Wemo or Yushin Precision Equipment or six-axis robots such as those from Kuka, can be integrated into the NC5 control. This means the injection moulding processor can equip his Sumitomo (SHI) Demag machine very flexibly, including being able to perform complex automation tasks.

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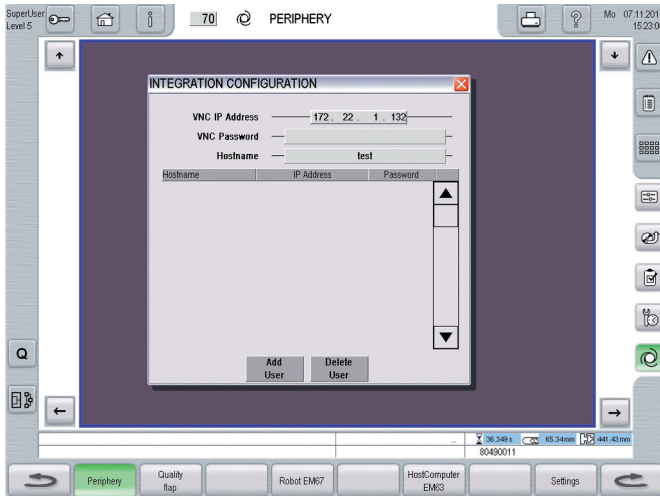
Integration of a peripheral device (example)



- Operation via NC5 control
- Own screen
- Complete image of the peripheral device is "mirrored" in the NC5 control

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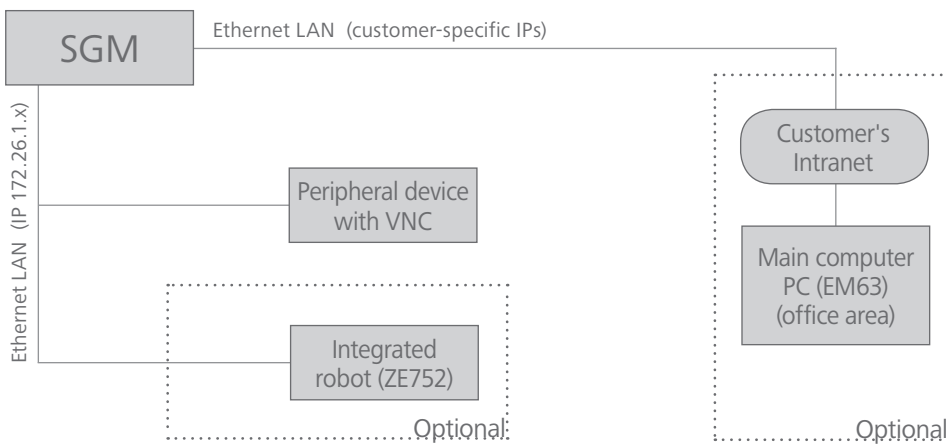
Periphery of activeRemote



Input of the network address, VNC password and (discretionary, user-defined) identification of the peripheral device in the NC5 on screen 70

Possible configurations of injection moulding machine - periphery

Connection of the periphery directly to the injection moulding machine or via the customer IT network



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Modular integrated automation - example: robot



Injection moulding machine equipment

- 1) Remote Control via VNC screen (CU 495)
- 2) Operation mode robot via hardware over Digital Outputs (SO 7_99_0005)
- 3) Euromap 67 signals (CU 523)

Robot equipment

- 1) TCP/IP over standard Ethernet VNC server
- 2) 4 digital inputs for triggers of 4 hard keys
- 3) Euromap 67

Summary

The operation of various peripheral devices can be effected centrally via the NC5 control

- Swift integration of all types of full touch screen devices.
i.e.: great flexibility in product choice (not determined by TD)

The user has various options for their operating philosophy

- Operation via NC5 and directly on the peripheral device.
The peripheral device control can be placed directly on the device.
The peripheral device control does not need to be placed directly on the NC5 terminal.

Operation only via NC5

- Central operation of the injection moulding machine and of the periphery via the NC5 control.
Elimination of the external monitor/touch screen → reduced investment costs.
Reduced maintenance costs (e.g. elimination of possible repairs).

activeRemote - simplifies operability and increases the efficiency of the entire system.