

SIMOREG 6RA70 DC-MASTER

SIMOREG: The successful DC drive range



INNOVATION With Tradition

SIMOREG

Still leading the field -
after years of success

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Power Module offering

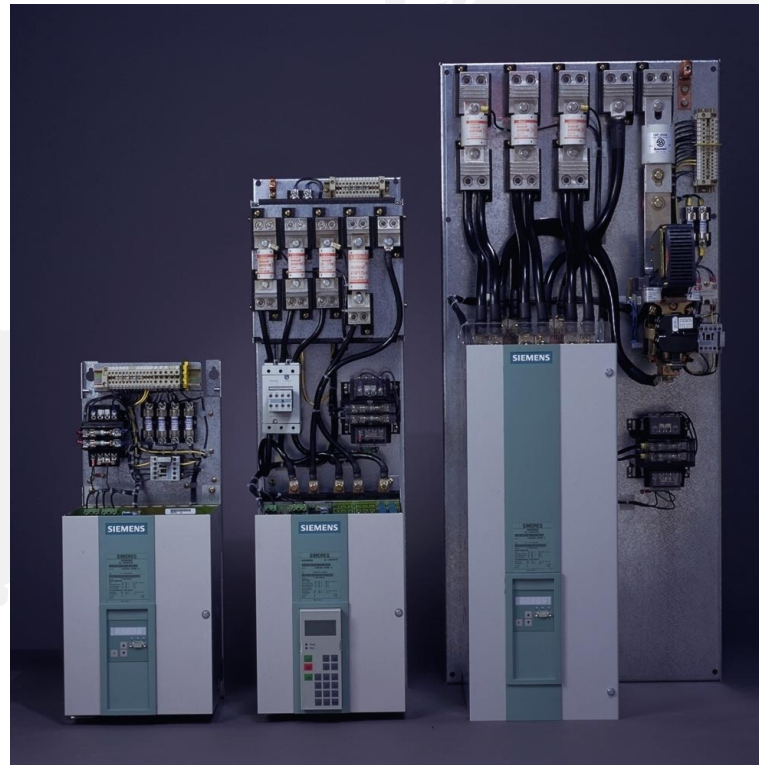
Available in 400V, 460V, 575V, 690V, and 830V ranges



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Base Drive offering

Configurable for 230V and 460V systems



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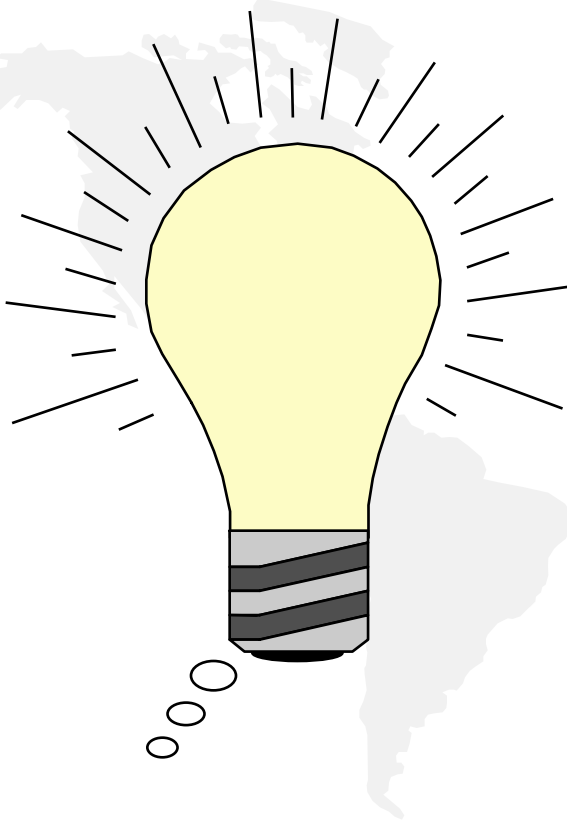
Technological leader - now even more universal



- More interfaces
- Extended power range
- Simplified parallel connection
- Higher performance (processing power)
- Simplified commissioning
- Can be expanded in a unified modular fashion with MASTERDRIVES standard options
- Mechanical design more compact
i. e., more power per unit volume

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What's new with the market leader?

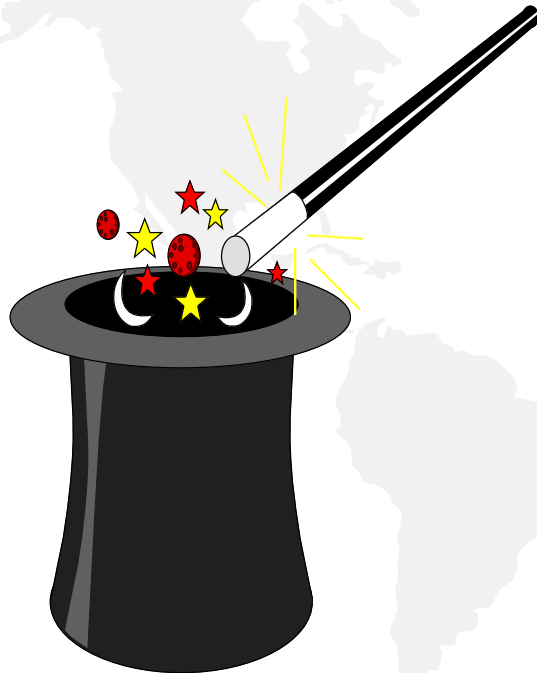


Now even more customer benefits through:

- BICO - technology
- Flash - EPROM
- User-friendly operator panel OP1 S
- Parameterization (no more jumpers)
- Technology software included in basic unit
- Units up to 1660 A armature current

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Now even simpler commissioning



- Operator control and parameterization unit standard in the unit door
- User-friendly operator panel OP1 S (option) operator prompting clear text display
- SIMOVIS, operator / monitoring via PC
 - ⇒ menu-prompted commissioning
 - ⇒ all parameter sets can be upread / downloaded
 - ⇒ all parameters can be set-up and monitored
 - ⇒ operator control / control (e. g. setpoint values, control commands)
 - ⇒ user-friendly evaluation of alarms / faults
- Electronic parameterization replaces jumpers and solderlinks with software
- Flash-EPROM
 - Simplifies software and firmware updates

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SIMOREG continues to set new standards



- More compact, space-saving design
 - ⇒ Nevertheless, fully compatible to the previous SIMOREG range

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One range for all connection voltages and standards

NEMA / CSA
3-ph. 460 V AC 60 Hz
3-ph. 575 V AC 60 Hz

IEC
3-ph. 380 - 415 V AC 50 Hz
3-ph. 500 V AC 50 Hz
3-ph. 660 - 690 V AC 50 Hz

IEC / NEMA
3-ph. 380 - 460 V AC 50/60 Hz

IEC
3-ph. 415 - 440 V AC 50 Hz

IEC / NEMA
3-ph. 380 - 460 V AC 50/60 Hz

380 V
525 V
IEC
3-ph. 380 - 440 V AC 50/60 Hz
3-ph. 500 - 550 V AC 50/60 Hz

Applicable Worldwide

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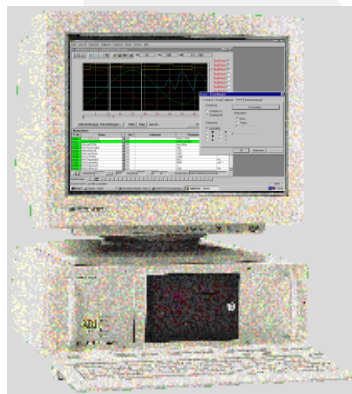
Uniform operating philosophy with MASTERDRIVES



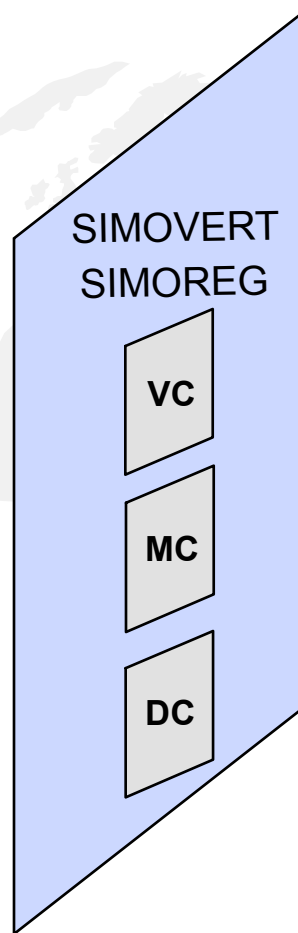
PMU



OP1 S



PC



Uniform operating philosophy for all control technology versions:

- Parameterization
- Unit response
- Communications

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The system for all requirements

SIMOREG 6RA70



all functions
all outputs
all voltages
uniform operation
to supply DC motors
and for special applications

The solution for

- all industrial sectors
- all applications
- all customers

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Modular intelligence



6RA70 Presentation 7/1/00

Basic Electronics

- Drive-related open-loop and closed-loop control
- BICO-technology
- Self-optimisation
- Comprehensive diagnostics

Technological software

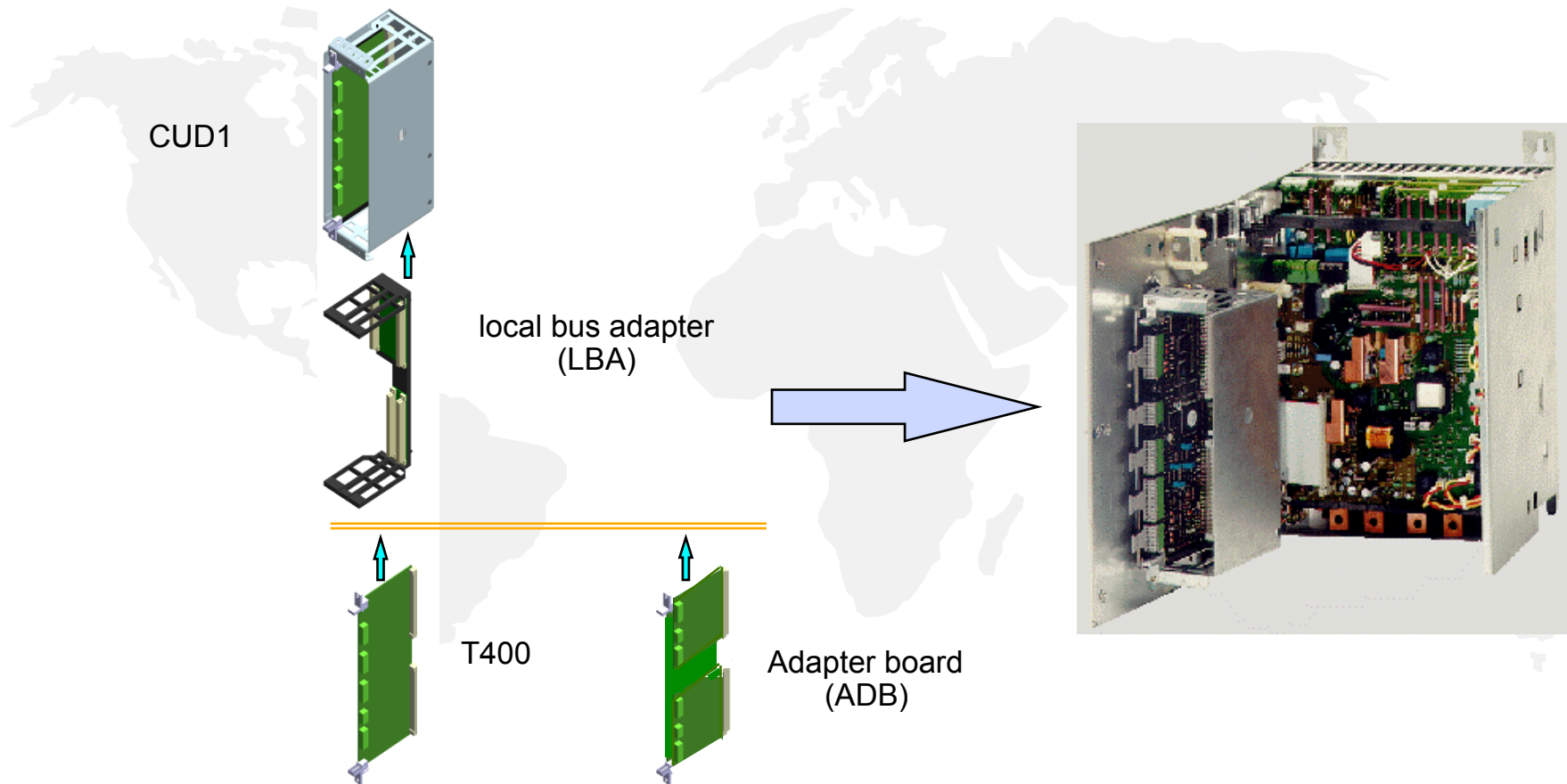
- Freely-configurable software blocks

Communications

- PC and external control connection (USS protocol)
- PROFIBUS-DP
- Direct drive-to-drive coupling (SIMOLINK)
- Peer-to-peer connection

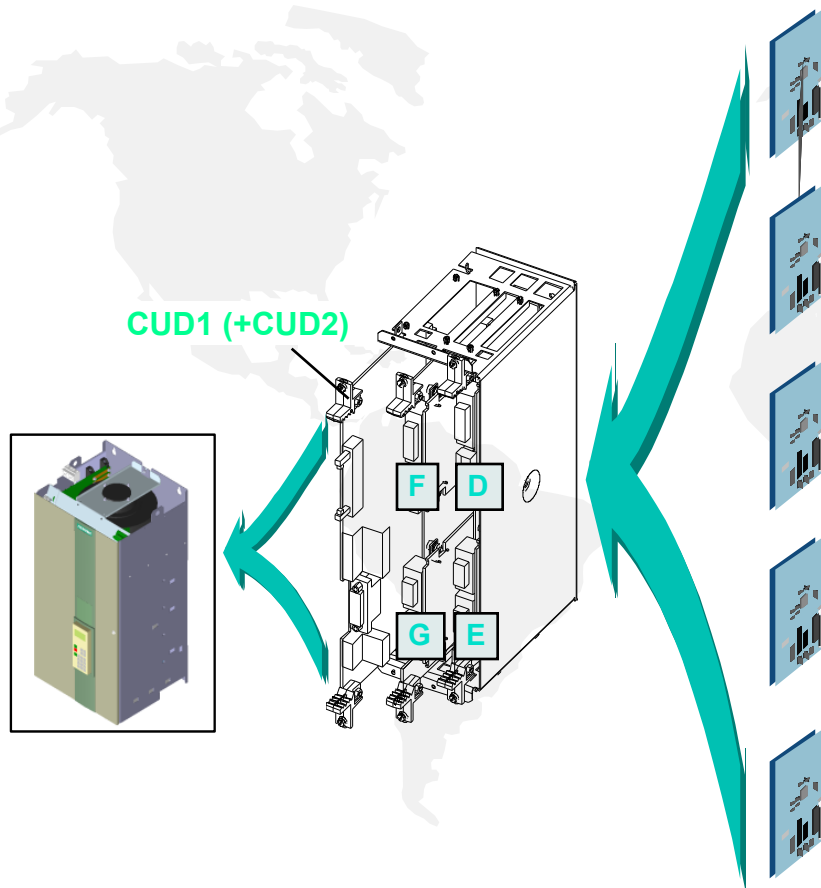
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Modular and expandable



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Electronics expansion



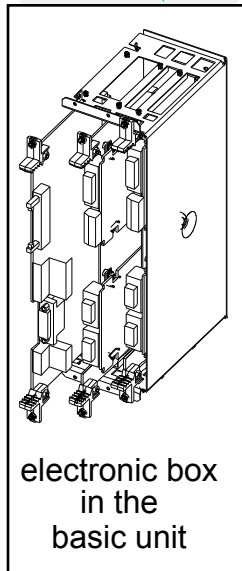
Slots for option boards

- Encoder (Sensor Boards)
 - SBP Pulse Encoder (TTL/HTL)
- Fieldbus (Communication Boards)
 - CBP PROFIBUS DP (12 Mbaud)
- Technological link
 - SLB SIMOLINK
- I/O-boards (Expansion Board)
 - EBx

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Technological functions in the drive

Technological functions



Can be flexibly applied

- Host- and bus systems are relieved
- In many cases a PLC is not necessary
- Cost savings
- Interfaces are reduced
- Open- and closed-loop control incorporated in the drive i.e. locally
- Transparent plant/system overview due to distributed configuration
- Less cabling and lower susceptibility to interference

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Standard functions (1)

Features	Customer Benefits
<ul style="list-style-type: none">● Fast current control with pre-control● Automatic restart within 2 s after a power failure - switches onto a running motor● Automatic optimization runs● Menu-promoted commissioning	<ul style="list-style-type: none">● Highly dynamic performance drives● Rapid resumption of production after a power loss● Fast, simple commissioning

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Standard functions (2)

Features	Customer Benefits
<ul style="list-style-type: none">● Function blocks can be freely assigned to cycle times● Freely-connectable function blocks using BICO technology● Software update without replacing a board (Flash-EEPROM)	<ul style="list-style-type: none">● Highly dynamic performance drives● Fast and flexible adaptation to the control of the machine● No danger to electronics boards/modules Simple handling through downloading Simple software updates

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Control terminals in the basic drive (CUD1)

- Pulse encoder evaluation, 2 tracks + zero mark
- 4 binary, inputs, 2 selectable
- 2 binary selectable outputs (100 mA short-circuit proof)
- 2 analog inputs ± 14 bit via differential amplifier
0 to ± 10 V or 0 to ± 20 mA or 4 to 20 mA
- 2 analog selectable outputs ± 11 bits, 0 to ± 10 V
- 1 real-time output, analog 0 to ± 10 V for current actual value
- Reference voltage P10, N10 (10 mA)
- 1 RS232 / RS485 interface
- 1 RS485 interface
- 1 motor temperature evaluation via KTY 84 or PTC
- Connector to OP1 S on the operator panel

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Terminal expansion board CUD2 (optional)

Control terminals on the terminal expansion board

- 4 binary selectable inputs
- 4 binary selectable inputs, floating, can be used as motor interface
- 2 binary selectable outputs (100 mA, short-circuit proof)
- 2 analog inputs, referenced to ground ± 10 bit, 0 to ± 10 V
- 2 analog selectable outputs ± 11 bit, 0 to ± 10 V
- 1 motor temperature evaluation via KTY 84 or PTC
- 1 RS 485 interface
- Interface to connect SIMOREG drives in parallel

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Digital inputs and outputs CUD1 and CUD2

Features	Customer Benefits
<ul style="list-style-type: none">● 12 digital inputs of which 10 are select inputs which can be assigned to approx. 100 binector inputs.● 4 digital select outputs which can be activated by over 720 binectors <p>Polarity and delay time for all outputs can be parameterized</p>	<ul style="list-style-type: none">● Relieves the control of drive-related functions● Inexpensive supplementary functions without supplementary hardware

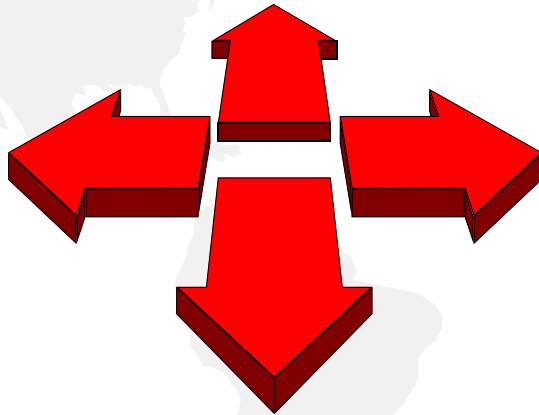
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Analog inputs and outputs CUD1 and CUD2

Features	Customer benefits
<ul style="list-style-type: none">● 4 analog inputs of which:<ul style="list-style-type: none">◆ 2 differential inputs (± 11 bit to ± 14 bit)◆ 2 inputs referred to ground (± 10 bit)Can be freely connected to every relevant point of control● 4 analog selectable outputs with high resolution<ul style="list-style-type: none">◆ Can be freely connected to every relevant control test point◆ Normalization, filtering and polarity can be parameterized	<ul style="list-style-type: none">● Inexpensive supplementary functions● Indicates every relevant factor without the cost of instrumentation

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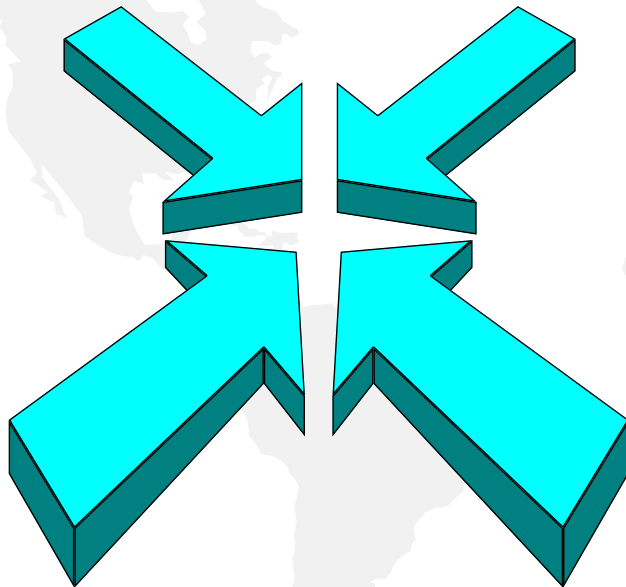
Outputs (terminals)



- 5 analog outputs, of which 4 are freely selectable
- 4 binary outputs, freely selectable with 100 mA drivers
- 1 binary output (relay) for main contactor control

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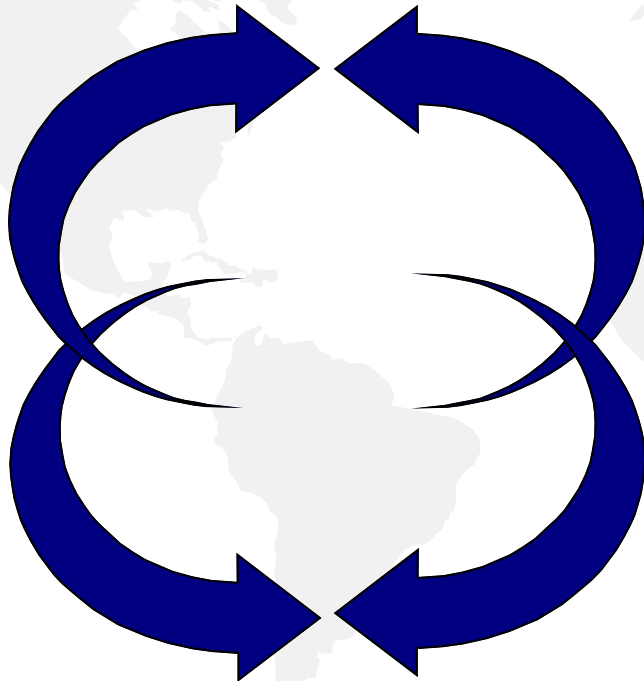
Inputs (terminals)



- Analog tacho (8 to 270 V)
- Digital tacho (with zero mark)
- Motor sensors
(for brush length, temperature, etc.)
- 2 analog select inputs
- 2 analog select inputs with
differential amplifiers
(also as ± 20 mA possible)
- 2 sensor inputs e.g. for PTC or
KTY84
- 12 binary select inputs of which
4 are floating

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With serial interfaces for every application



- 1 x RS232 (or RS485) for OP1 S or SIMOVIS
- 2 x RS485 (2 or 4-wire)
 - ⇒ for USS Protocol,
 - ⇒ Peer-to-peer connection
 - ⇒ PROFIBUS-DP (option)
 - ⇒ SIMOLINK (option)
- 1 x internal SSC to connect several units in parallel

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User-friendly operator panel OP1 S



Features

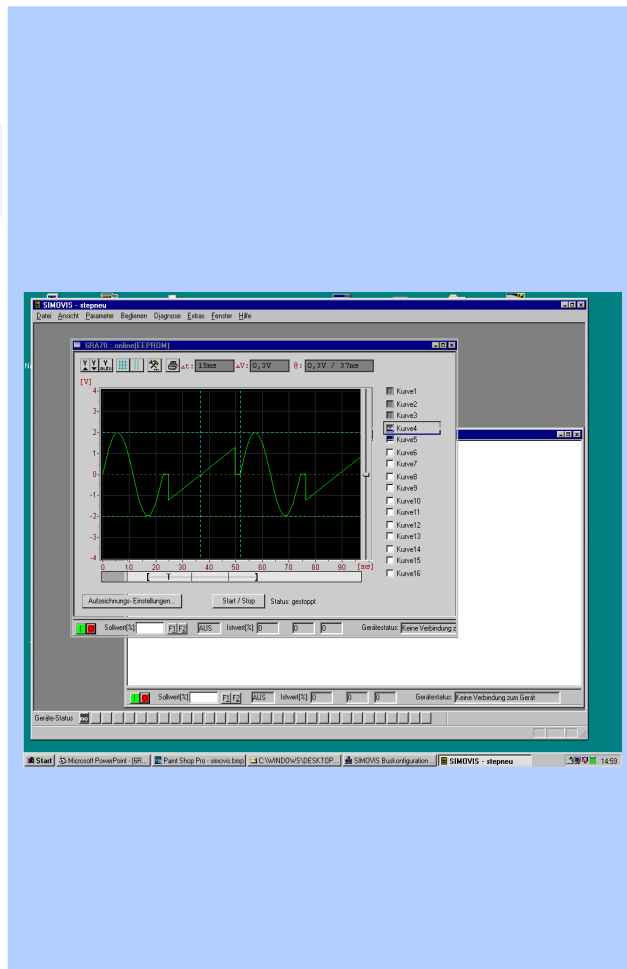
- 4-line clear text display with 16 characters
- Numerical keyboard
- Removable
- Parameter saving
- Parameter sets can be UPREAD (DOWNLOAD)
- Menu prompted

Customer benefits

- Indicates physical values
- No measuring equipment required
- Can also be used as hand-held unit
- Data storage
- Simple commissioning
- Fast, direct parameter access
- Fast, routine commissioning
- Applicable for all SIMOREG DC-MASTER and SIMOVERT MASTERDRIVES

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Operator control and monitoring: Trace Buffer



Features

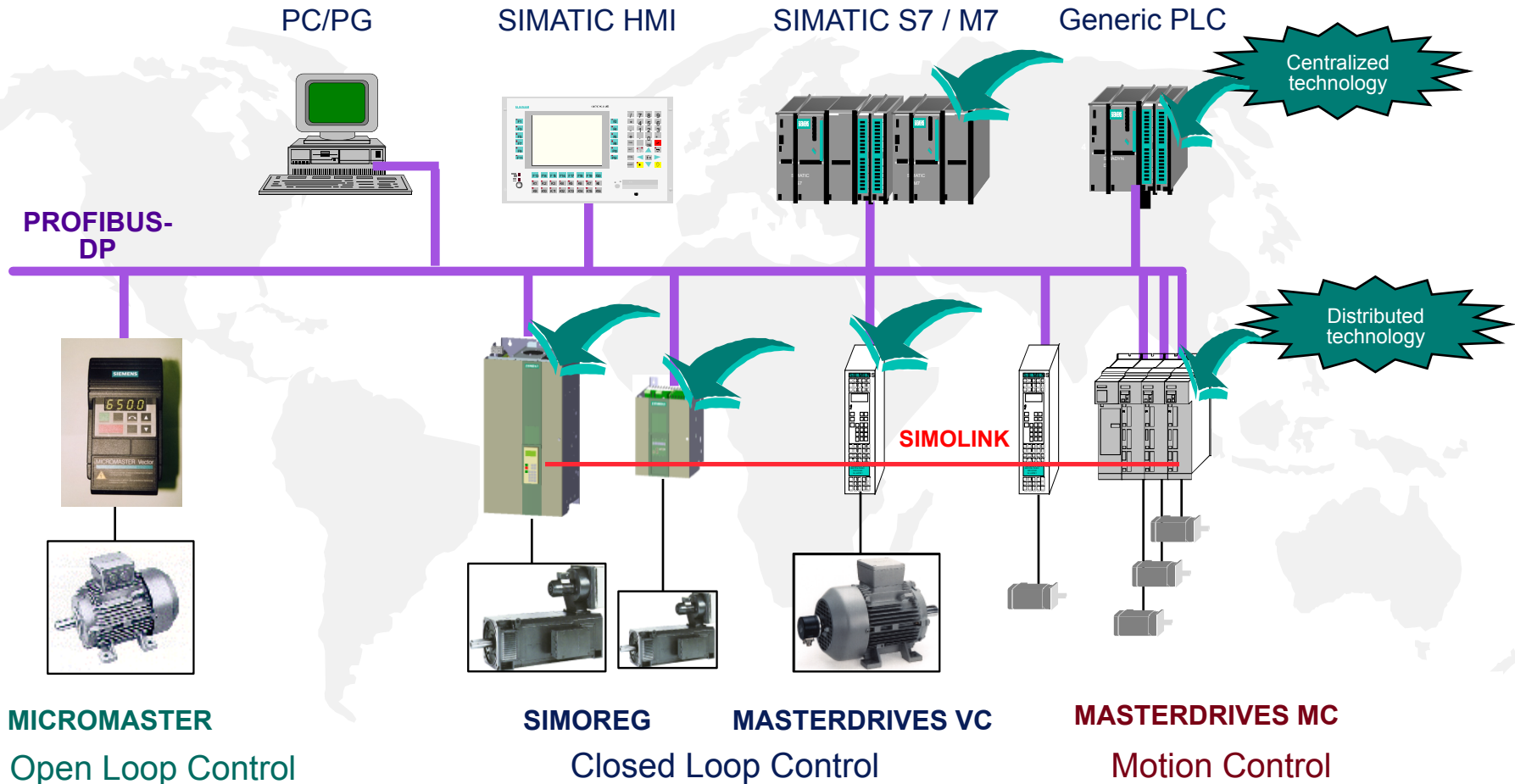
- 10 channels for diagnostics and support in fault-finding
- Output
 - via the serial interface
 - via SIMOVIS
- Storage scope functions integrated in the unit

Customer benefits

- Short commissioning-times
- No instrumentation and tools required
- Fast troubleshooting

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Solutions with centralized and distributed control



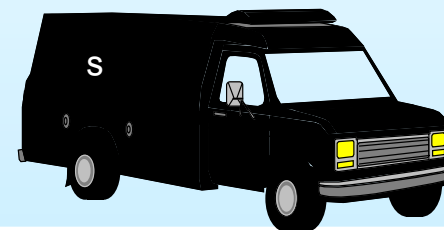
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Quality using after-sales service



Experienced - tested - worldwide

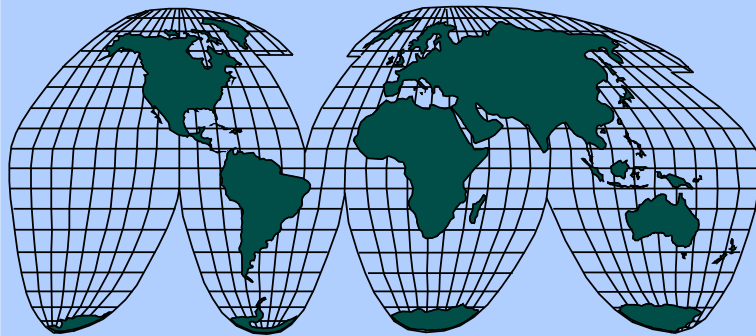
- Specialist service department (Hotline)
- Product technical support
- Central repair service
- Central spare parts service
- Central and distributed start-up



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Service

Features



- **Worldwide service network**
- **Qualified customer service**
- **Qualified workshops**

Customer benefits

- **Straightforward and fast repair**
- **High availability of the systems and plants**