



EVOLUTION X

PROCESS AUTOMATION

Areas of application

Mechanization

Robot applications



Automation

Manual applications

EVOLUTION X

PROCESS AUTOMATION

Power sources

Power source for continuous operation and rough use

PHOENIX 360: 360A / 65%dc / 40°C
PHOENIX 500: 500A / 40%dc / 40°C

Perfect and 100% reproducible welding results because of digital system

128 pre-programmed JOBS + 128 further JOBS memory spaces

Data monitoring and documentation with software Q-DOC 9000

Wire feeders
PHOENIX DRIVE 4
ROB APD (Binzel)
flat wire (Dinse)

Industrial bus systems
e.g. Profi-, Inter-, CAN-BUS, Devicenet

Analysis, optimizing and update of welding parameters with PC/Laptop and software PCM 300 via serial interface

High mains voltage tolerances

PHOENIX 360 / 500:
3 x 400V (-25% to +20%)
3 x 415V (-25% to +15%)
PHOENIX 500 additional:
3 x 460V (-25% to +10%)



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Interface RINT X11



Analogue inputs for control voltages (nominal values)

- to regulate wire feed speed (welding speed)
- to correct arc voltage
- Dynamics / choke effect

Digital inputs

- Operating modes:
2/4-stroke, 2/4-stroke special
- Start/ Stop
- Gas test 1, 2
- Inching 1, 2
- Direction of rotation
- Inching speed (high/low)
- Welding method
(MIG normal / MIG pulse arc welding)
- 256 JOBS
- Internal/external JOB selection switchover
- 16 programs

Relay outputs

- Current flow $I > 0$.
- Ready for welding
- Fusing (stick)
- Interference
- Voltage tolerance
- WF tolerance
- Current tolerance
- max. Motor current

Interface BUS-INT X10

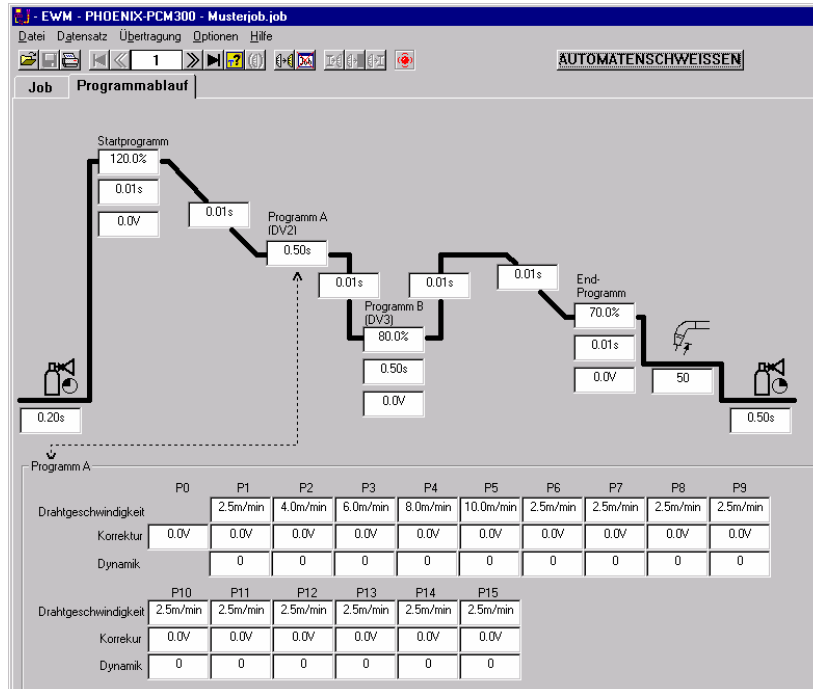
For connection to Industrial bus systems:

- CAN-open
- CAN-devicenet
- Profibus
- Interbus



PROCESS AUTOMATION

Welding parameter software PHOENIX PCM 300



Tool for automation and documentation

The program consists of a database with a corresponding extent of functions

Basic functions

- Control and communication via interface with the welding machine
- Providing and management / administration of jobs
- Choice and adjustment of program
- Documentation
- Adjustment of tolerance limits for process monitoring

Überwachung

Spannungstoleranz	DV-Toleranz	Toleranz Reaktionszeit für U-IST, I-IST
0%	0%	
Stromtoleranz	Max. zul. Motorstrom	Toleranz Reaktionszeit für DV-IST, IM-MAX
0%	0.1A	

Überwachung

Spannungstoleranz

0%

DV-Toleranz

0%

Toleranz Reaktionszeit für U-IST, I-IST

0.01s

Stromtoleranz

0%

Max. zul. Motorstrom

0.1A

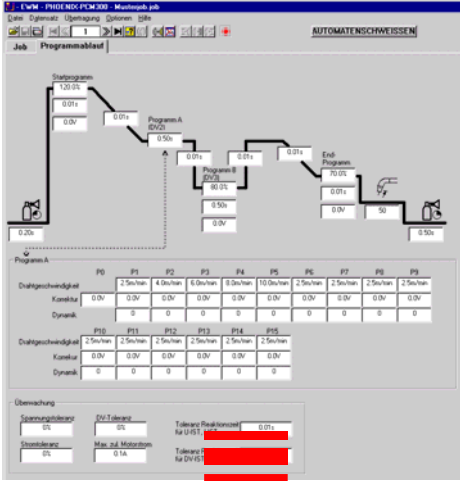
Toleranz Reaktionszeit für DV-IST, IM-MAX

0.01s

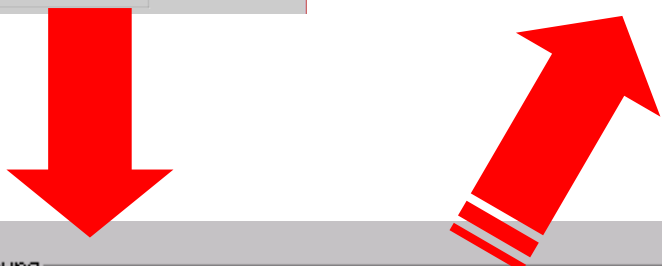
PROCESS AUTOMATION

Welding data monitoring with PHOENIX PCM 300

EVOLUTION X



- Relay outputs**
- Voltage tolerance
 - WF tolerance
 - Current tolerance
 - max. Motor current



Überwachung

Spannungstoleranz	DV-Toleranz	Toleranz Reaktionszeit für U-IST, I-IST	0.01s
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0%	0.1A		

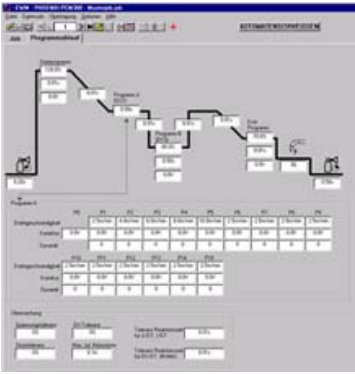
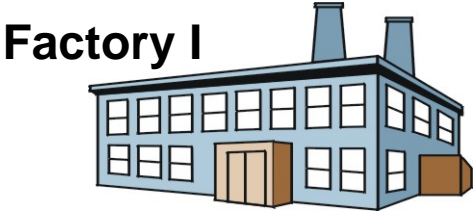
PROCESS AUTOMATION

EVOLUTION X

Automatisation possibilities in the future
(Working group in German Welding Society DVS)

PHOENIX connection to Ethernet
Central administration and access possibility for

- Parameters
- Diagnostics
- Monitoring
- Data backup

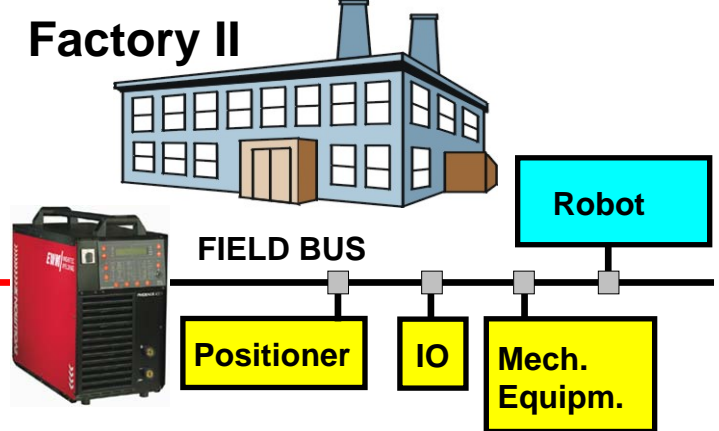


Welding parameters

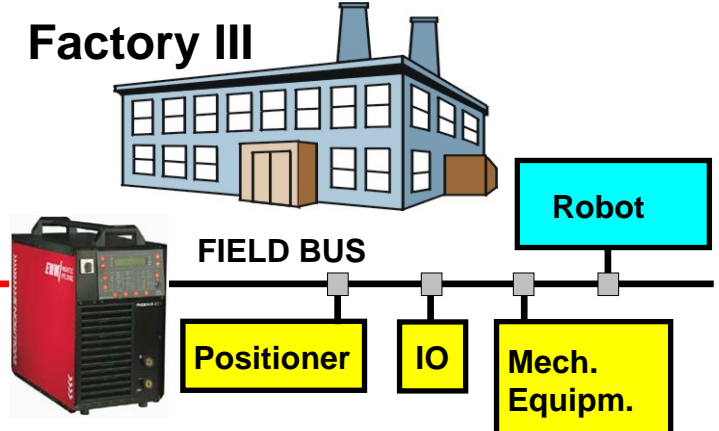


ETHERNET

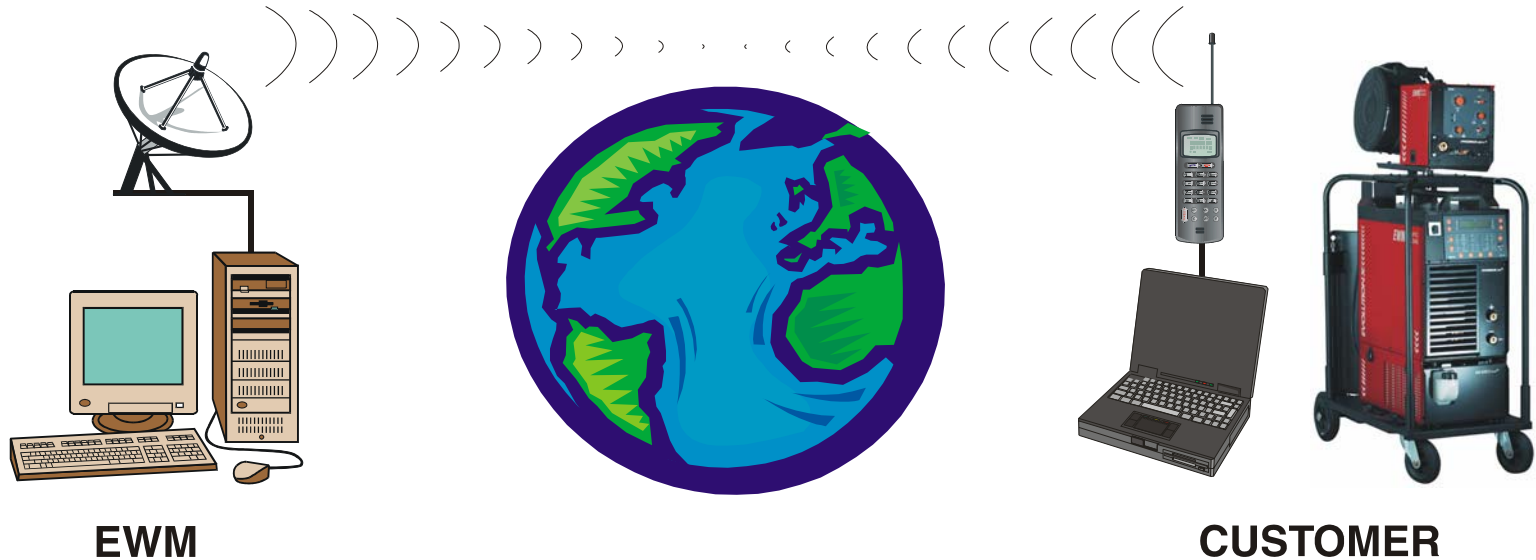
Factory II



Factory III

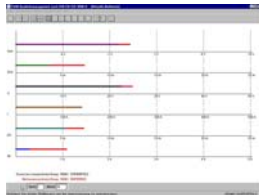
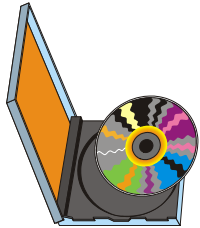


Worldwide communication - 2nd generation digital system



- **Online - via internet - analyzing and optimizing welding parameters during welding**
- **Transfer of software updates and welding parameters for special applications**
- **Transfer of programs and welding parameters to other machines**

EWM- Documentation system PC-INT X10 with Q-DOC 9000



- Quality proof according to DIN EN ISO 9000 ff.
- Preparing and documentation of welding procedure specifications
- Calculation for production
- Online monitoring of the welding data in a bar graph
- Storage, analysis, printing
- Long recording time (0,25MB/h)
- Minimum PC- requirements (PC 386DX40 / 4MB RAM)
- Part of the welding-specialist training (German Welding Society DVS, EWF) at the chambers of handicrafts (HWK)

PROCESS AUTOMATION

Cooling units COOL70 U40 / COOL 70 U41

COOL 70 U40 for the most usual applications

COOL 70 U41:
Especially powerful version for long intermediate hose package and big difference in altitude between cooling unit and welding torch

Quick change because of plug-in and snap-on closures



Centrifugal pump

- Continuous operation
- Coolant flow without vibrations
- Low noise

Easy service

- External coolant filling pipe
- Coolant level gauge
- Coolant drain valve

PROCESS AUTOMATION

Robot wire feed unit PHOENIX DRIVE 4 ROB

Small, light weight (9,8Kg) and compact

Transparent cover in order to check the wire feed unit

4-wheel drive

- Easy handling
- Easy to change
- Surface pressure adjustable
- Easy changing of the rolls without tools

Connection socket for automation to exchange various signals between the torch head and machine, SPC, etc.

Console with strain relief (option)

Key button

- Wire return
- Blow-out
- Gas test
- Wire inching

For assembling directly on to the robot arm or into mechanized applications

Euro- or Dinse torch connector

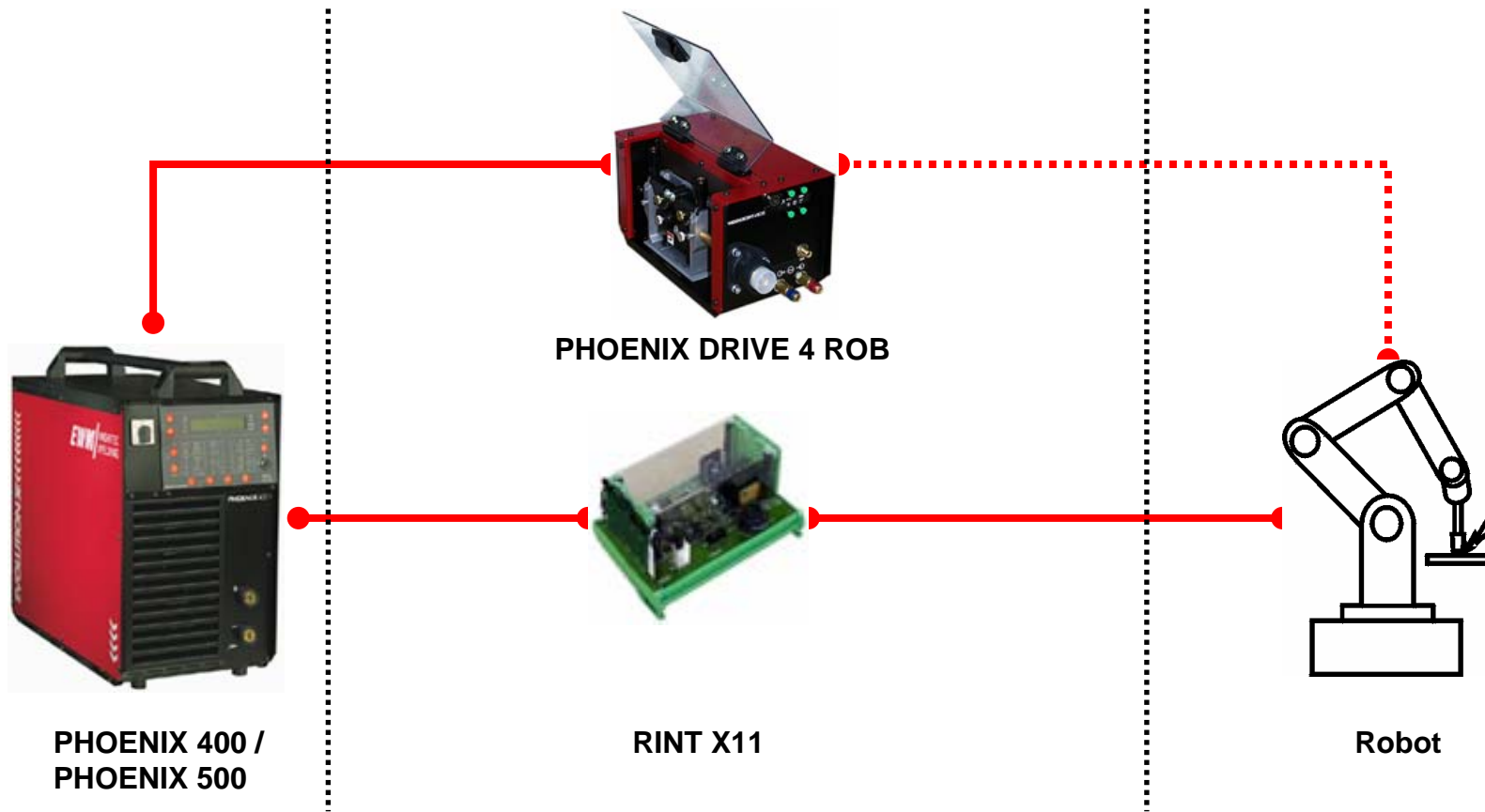


EVOLUTION X

PROCESS AUTOMATION

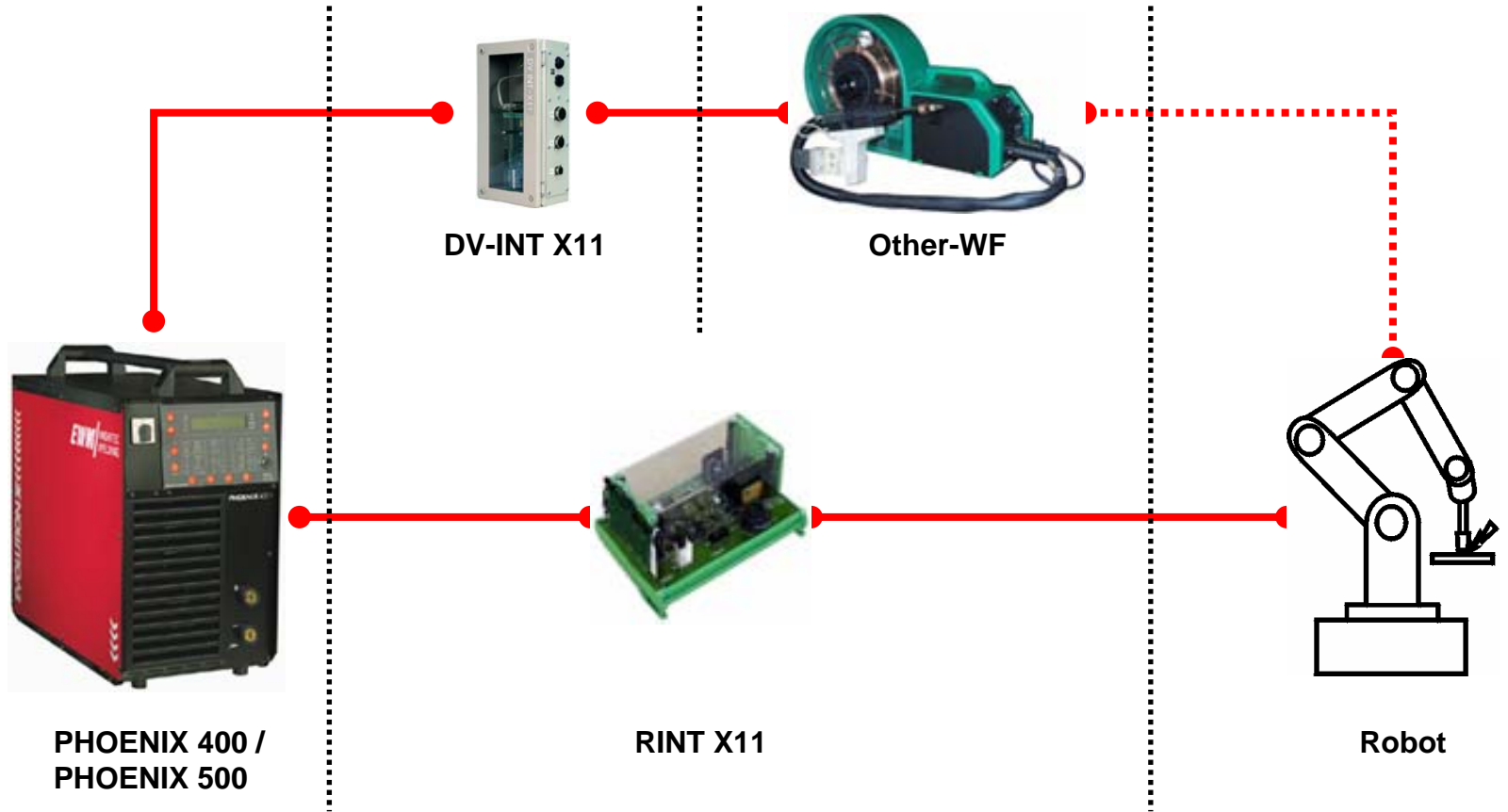
EVOLUTION X

Combination 1



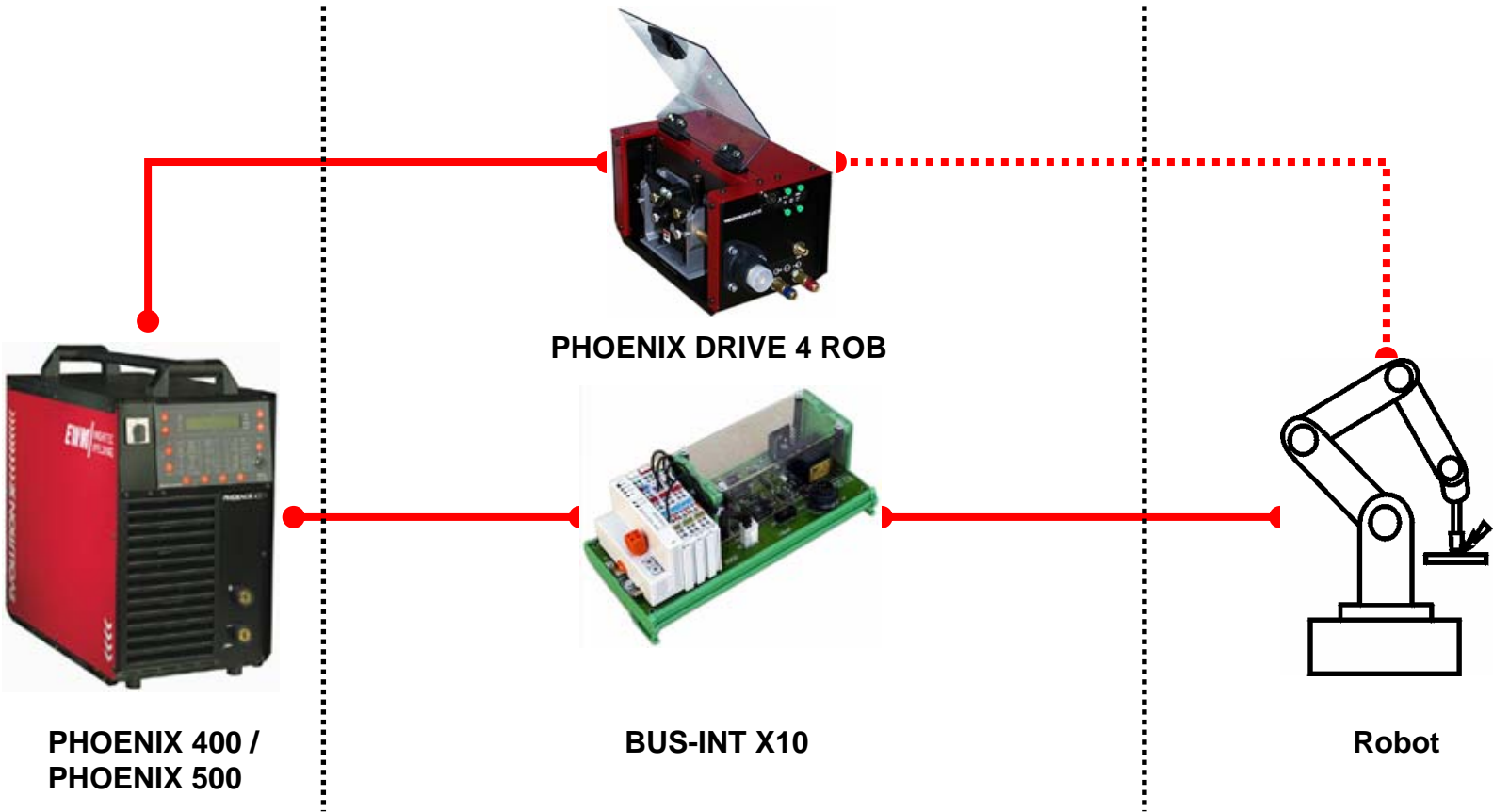
EVOLUTION X

Combination 2



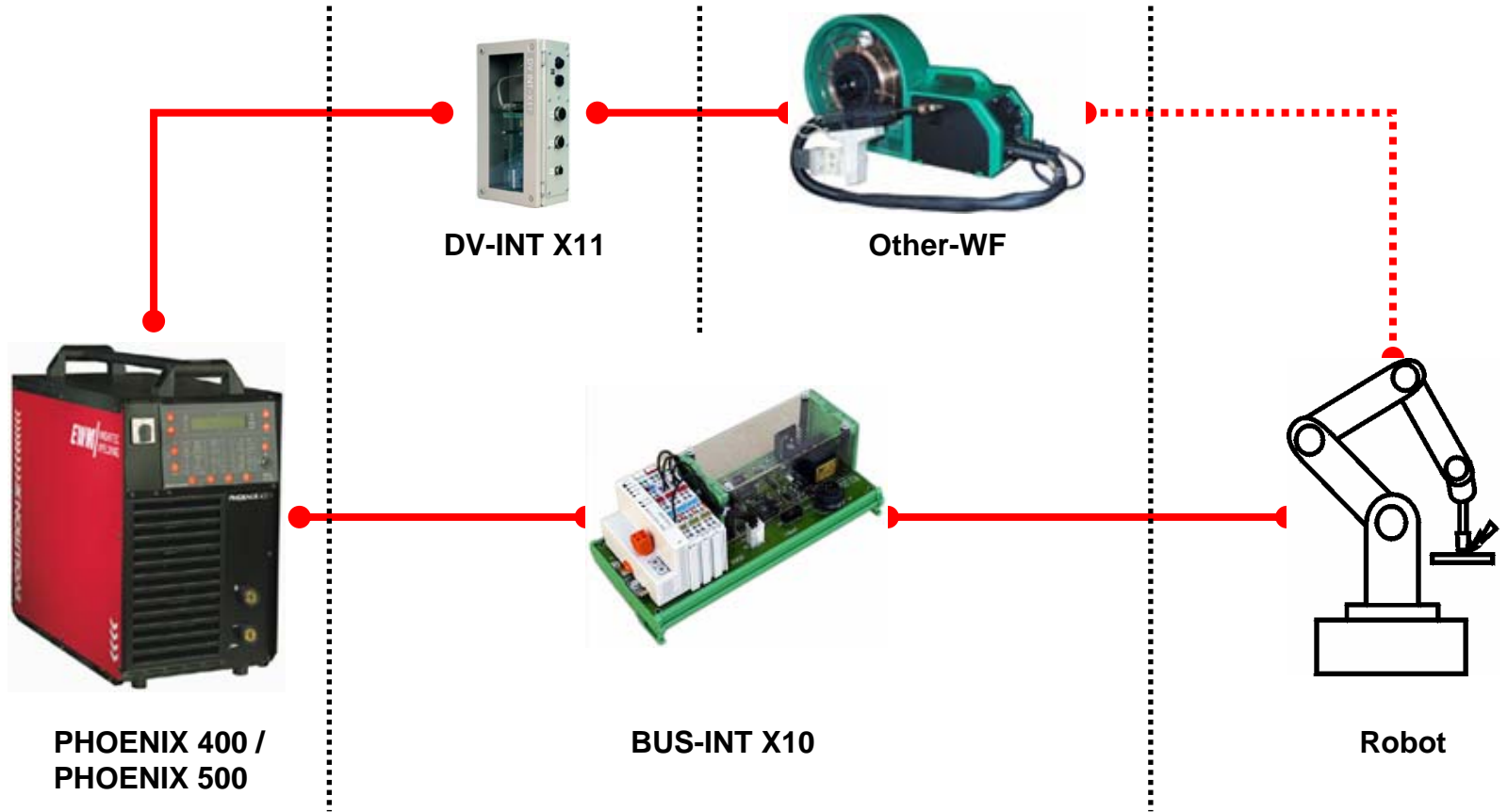
EVOLUTION X

Combination 3



EVOLUTION X










Combination 4



PROCESS AUTOMATION

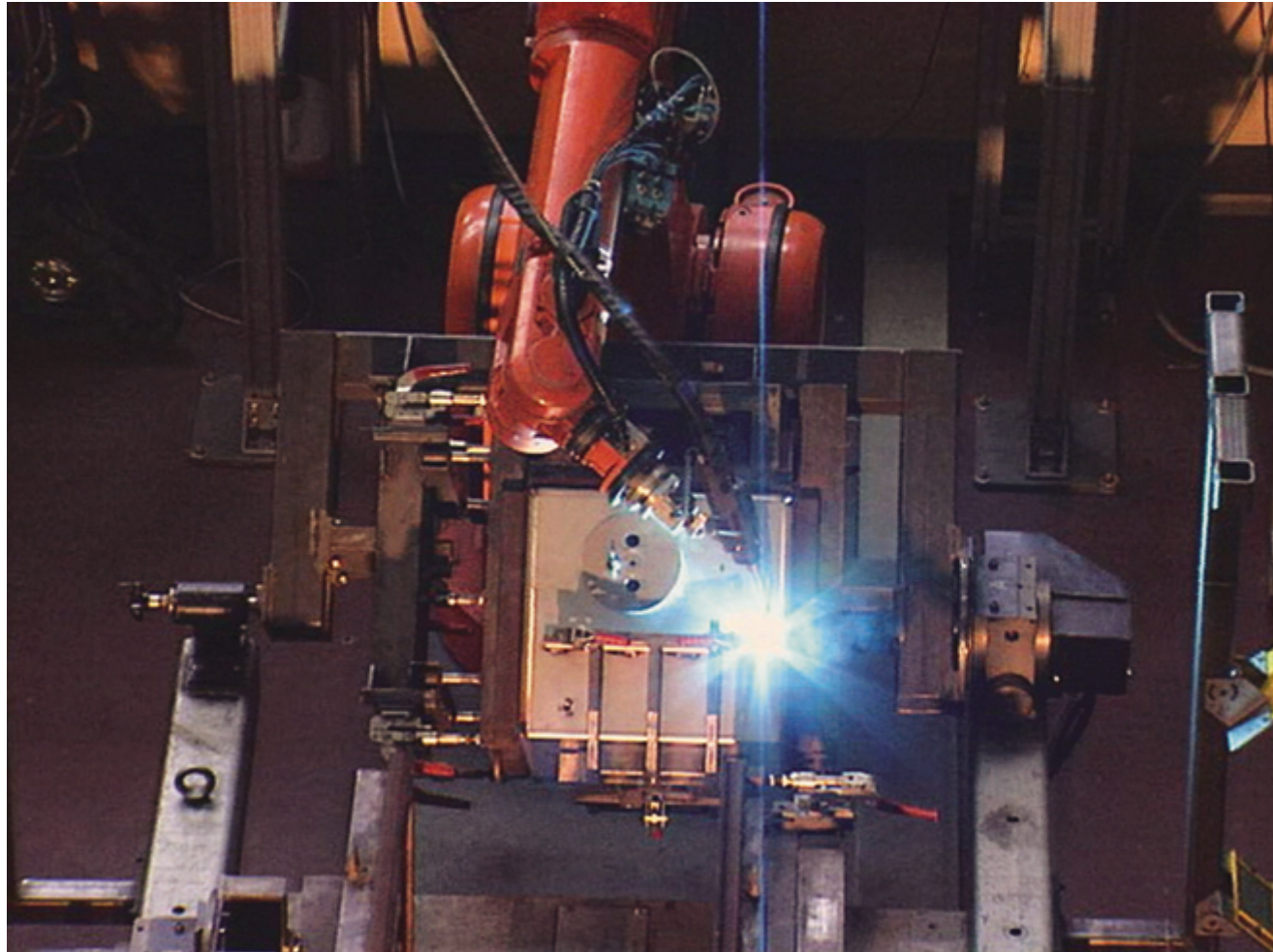
Combination possibilities 1 - 4

EVOLUTION X

Combination possibility	PHOENIX 400/500	RINT X11	BUS-INT X10	PHOENIX DRIVE 4 ROB	DV-INT X11 mit Other-WF	MULTIVOLT 70-500	COOL 70	PC-INT X10 (Q-DOC 9000)	PCM 300
									
1	●	●	-	●	-	○	○	○	○
2	●	●	-	-	●	○	○	○	○
3	●	-	●	●	-	○	○	○	○
4	●	-	●	-	●	○	○	○	○

- = possible
- = not possible
- = always possible

Application ABB



Application



EVOLUTION X