

Hardware interface I/O - Address port 3

Translation of the "Original Dokumentation"

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Name: FKT_EA_Schnittstelle_en

Version:

Version: 2019/45	
Change	Letter symbol
• Controller card KW-R27 added	STL

Previous version: 2018/44

Product version:

Product (AMK part no.)	Firmware Version (AMK part no.)
KW-R06 (O835) KW-R07 (O807) KW-R16 (O872) KW-R17 (O873)	AE-R05/R06 V1.10 2013/15 (204486)
KW-R24 (O901)	AE-R24 V2.03 2015/06 (205587)
KW-R24-R (O954)	AE-R24-R V2.11 2016/46 (206643)
KW-R25 (O902)	AE-R25 V2.03 2015/06 (205588)
KW-R26 (O903)	AE-R26 V2.03 2015/06 (205589)
KW-R27 (O957)	AE-R26 V2.12 2018/40 (207284)
KE, KEN, KES	KE-E03 V3.04 2013/03 (204405)
KE-xEx, KEN-xEx, KES-xEx	KE-E10 V4.02 2014/49 (205533)
iX / iC / iDT5 /	iX V1.03 2013/18 (204515)
iX(-R3) / iC(-R3) / iDT5(-R3) /	iX V2.08 2015/46 (206017)

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1 Hardware interface I/O - Address port 3

Supported Hardware: KW-R06 / KW-R16 / KW-R07 / KW-R17 / KE(N,S) / KE(N,S)-xEx / iX / iC / iDT5 / iX(-R3) / iC(-R3) / iDT5(-R3) / KW-R24 / KW-R24-R / KW-R25 / KW-R26 / KW-R27 /

Device specific, the controller modules are equipped with an I/O hardware interface. In some cases multifunctional I/Os are available. Multifunctional means that the hardware can be used as input or output. The custom configuration determines whether it is an input or an output. A simultaneous assignment as input and output is not permitted.

The availability and number of physically available inputs and outputs can be found in the device description of the hardware used.

The physically available inputs and outputs are assigned the parameter groups 'input' and 'output port 3'. Standard functions can be assigned to the parameters via function code or PLC user program messages.

Call functions with digital inputs, read image with a PLC

The parameterized standard function can be activated and deactivated with the digital inputs.

ID34100 'Binary input word' reproduces the image of the digital inputs and can be read with a PLC. The status of the inputs can always be read, even without an assigned function code.

Standard functions for digital inputs: [See 'Codes for the configuration of the binary inputs' on page 11.](#)

For example, hardware limit switch can be connected to DI1 + DI2.

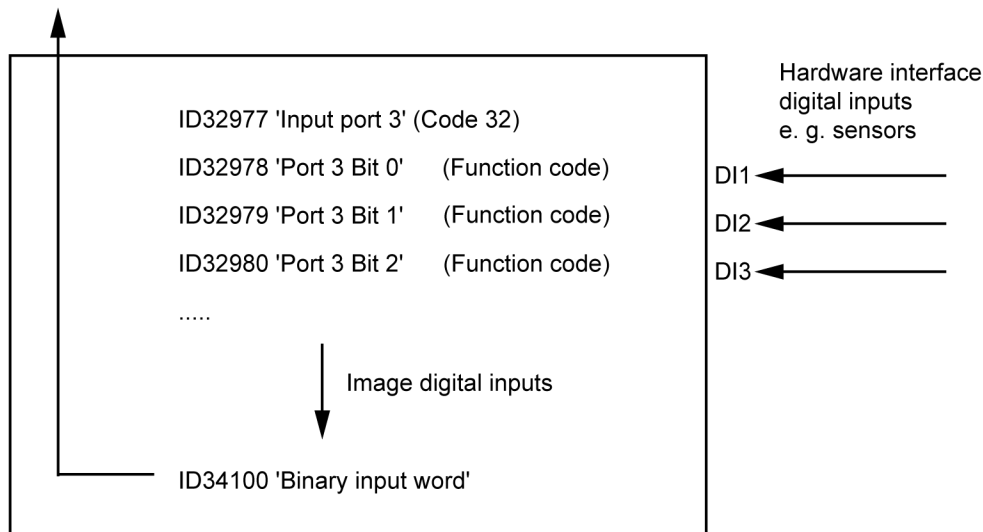
Parametrization:

ID32977 'Address input port 3' = Code 32 (Default value)

ID32978 'Port 3 Bit 0' = Function code 33940 'Hardware limit switch positive direction'

ID32979 'Port 3 Bit 1' = Function code 33941 'Hardware-limit switch negative direction'

Access via PLC / read



Output real-time bit messages with digital outputs

With the digital outputs, the parameterized real-time bit messages are output.

ID34120 'Binary output word' reproduces the image of the digital outputs and can be read with a PLC.

For example, a PLC can be connected to output DO1 in order to evaluate the status of the input signals EF AND EF2 (control signal output stage enable).

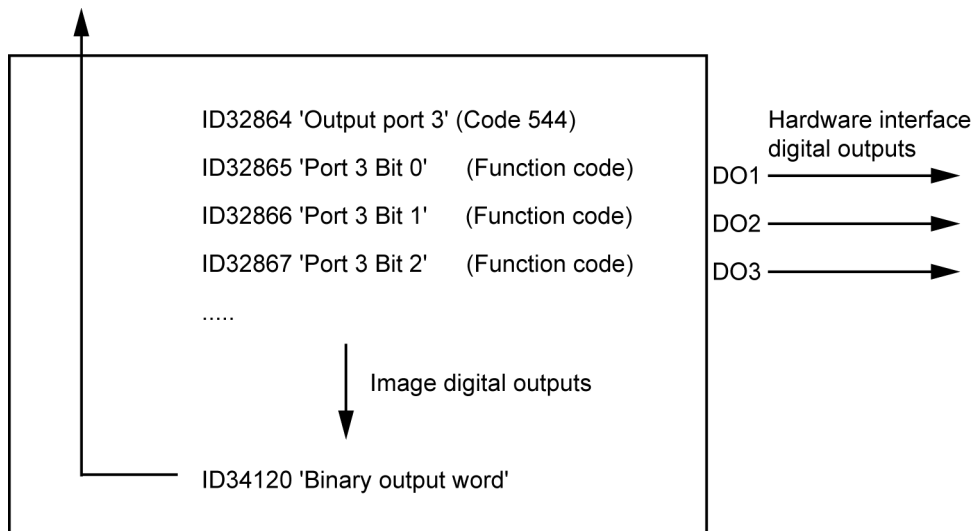
Parametrization:

ID32864 'Address output port 3' = Code 544 (Function assignment via parameter)

ID32865 'Port 3 Bit 0' = Function code 33133 'Power output stage enable control signal (EF AND EF2)'

Real-time bit messages for digital outputs : See 'Codes for the configuration of the binary outputs' on page 6.

The available standard functions for the hardware used can be found in ID398 'List status bits'. (ID398 'List status bits' must be read from the device and contains only codes for outputs).



Set / reset digital outputs from the PLC user program

For example, the digital output DO1 can be set or reset with the PLC.

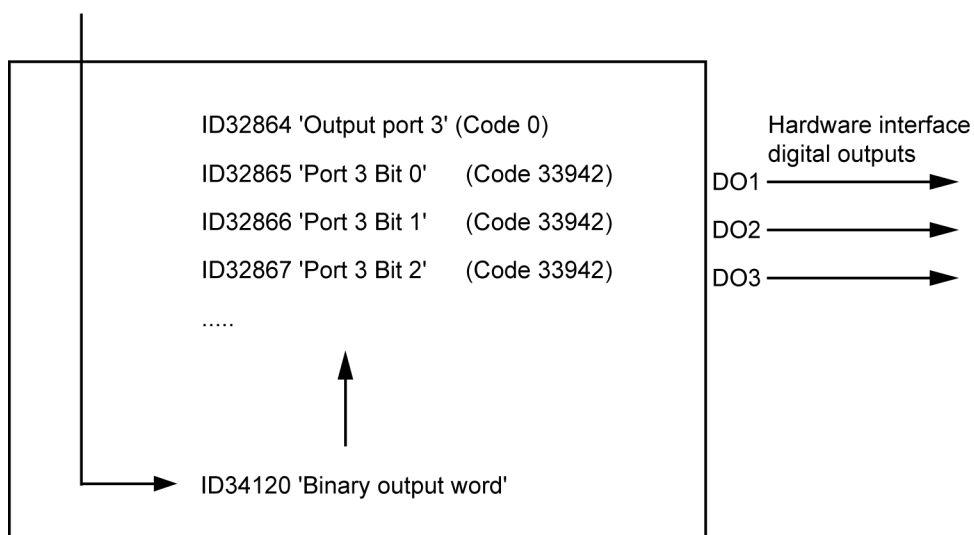
Parametrization:

ID32864 'Address output port 3' = Code 0 (Set / reset the outputs by the PLC)

ID32865 'Port 3 Bit 0' = Function code 33942* (Access via PLC)

* For KW-R06 /-07/-16/-17 the function code 33942 and 0 are compatible.

Access via PLC / write



PLC access options

Synchronous or asynchronous access through the configuration of the CODESYS 'Control configuration'

See: PDK_204979_Software_AIPEX_PRO_V3 Chapter: 'First Steps CODESYS V3' → 'Functions' → 'IO Access'

Synchronous access to ID34100 'Binary input word' and ID34120 'Binary output word'

With the function 'Additional variable access ...' the required function blocks can be created.

See: PDK_204979_Software_AIPEX_PRO_V3 Chapter: 'First Steps CODESYS V3' → 'Functions' → 'Additional variable access'

Asynchronous access to ID34100 'Binary input word' and ID34120 'Binary output word'

See: PDK_205210_V3_AmkLibraries Chapter: 'AmkSystem - System functions pecific to AMK' → 'ID_Access (ID access functions)' → 'ElementaryAccess (Elementary ID-access)' → 'READ_ID_DINT (FB)' or 'WRITE_ID_DINT (FB)'

Process image of the digital inputs

The image of the digital inputs can be processed with the following codes:

Code 33930 'Image Port 3 Bit 0 / DI1'

Code 33931 'Image Port 3 Bit 1 / DI2'

Code 33932 'Image Port 3 Bit 2 / DI3'

Code 33933 'Image Port 3 Bit 3 / DI4'

Code 33934 'Image Port 3 Bit 4 / DI5'

The images can be integrated in ID144 'Status word'

ID144 'Status word' shows the status of a maximum of 16 real-time bit messages. The status word content can be configured via ID26 'Configuration status bits' in an application-specific manner. With the help of ID144 'Status word', the configured signals are transmitted in real-time from the drive to the controller. For this purpose, ID144 'Status word' must be incorporated into the drive telegram as a cyclical date.

The Images can be integrated as real-time bit in ID135 'Drive status word'

Configuration 'Drive status word' Bit 6 with ID305 'Allocation status bit 1'

Configuration 'Drive status word' Bit 7 with ID307 'Allocation status bit 2'

The images can be mirrored to digital outputs

Example: Input status DI1 is output at digital output DO1.

ID32865 'Port 3 Bit 0' = Code 33930 'Image Port 3 Bit 0 / DI1'

Recording with the AIPEX PRO oscilloscope

.The images can be configured as oscilloscope signals.

Output bit pattern at bus failure at port 3

In the event of a bus failure, the output port 3 (also applies to output ports 1 + 2) can output a bit pattern. The output is activated with ID34027 'BUS failure character'. The bit pattern is configured with ID34202 'Bit mask port 3'.

After 'Clear error', the value of the output mask ID34202 'Bit mask port 3' remains active until a new value is written via ID34120 'Binary output word'. The new value can be written cyclically or via the service channel.

In the event of a bus failure, the drive should be braked and the outputs DO1 and DO3 set

Parametrization:

ID32864 'Address output port 3' = Code 0 (Set / reset the outputs by the PLC)

ID32865 'Port 3 Bit 0' / DO1 = Function code 33942* (Access via PLC)

ID32866 'Port 3 Bit 1' / DO2 = Function code 33942* (Access via PLC)

ID32867 'Port 3 Bit 2' / DO3 = Function code 33942* (Access via PLC)

ID32868 'Port 3 Bit 3' / DO4 = Function code 33942* (Access via PLC)

* For KW-R06 /-07/-16/-17 the function code 33942 and 0 are compatible.

ID34027 'BUS failure character' = Code 12 (Diagnostic message, drive-internal withdrawal of controller enable - Set binary outputs application-specific in the event of bus failure)

ID34202 'Bit mask port 3' = 0x5 → 0101 binary (DO4/DO3/DO2/DO1)

Measurement functions

With the inputs DI2 and DI3 different measuring functions can be realized.

Appendix

1.1 Codes for the configuration of the binary outputs

Codes for the configuration of the binary outputs

Code	Designation	Description	KW-R24 /	KW-R24-R / KW-R25 / KW-R26 / KW-R27 /	KE (N,S) / KE (N,S)-xEx /	iX / iC / iDT5 / iX(-R3) / iC(-R3) / iDT5 (-R3) /
0	Function inactive	No function assigned to the binary output	■	■	■	■
310	Warning: Motor overload	Maximum load integral i^2t of the motor according to ID114 'Overload limit motor'	■	■	-	■
311	Warning: excess converter temperature Note: same as code 33017	Temperature of the device rear wall or value according to the temperature model is too high, diagnostic message 2350 'Device temperature warning'	■	■	-	-
312	Warning: excess motor temperature Note: same as code 33018	Value at the sensor input X12 or according to ID34166 is too high, diagnostic message 2359 'Motor overload warning'	■	■	-	-
313	Warning: excess air temperature Note: same as code 33021	Diagnosis 1073 'Cooling Air Temperature Warning'	■	■	-	-
330	$n_{\text{actual}} = n_{\text{target}}$	$ n_{\text{target}} - n_{\text{actual}} < \text{ID157 'Velocity window'}$	■	■	-	■
331	$n_{\text{actual}} < n_{\text{min}}$	$ n_{\text{actual}} < \text{ID124 'Zero velocity window'}$	■	■	-	■
332	$n_{\text{actual}} < n_x$	$ n_{\text{target}} - n_{\text{actual}} < \text{ID125 'Velocity threshold'}$	■	■	-	■
333	$M_d \geq M_{dx}$	$M_{\text{actual}} \geq \text{ID126 'Torque threshold'}$	■	■	-	■
334	$M_{\text{Target}} \geq M_{\text{Limit}}$	$M_{\text{Target}} \geq \text{ID82 'Positive torque limit'}$ or $M_{\text{Target}} \leq \text{ID83 'Negative torque limit'}$	■	■	-	■
335	$n_{\text{Target}} \geq n_{\text{Limit}}$	$n_{\text{Target}} \geq \text{ID38 'Positive velocity limit'}$ or $n_{\text{Target}} \leq \text{ID39 'Negative velocity limit'}$	■	■	-	■
336	In Position	$ x_{\text{target}} - x_{\text{actual}} < \text{ID57 'In position window'}$	-	■	-	■
337	$P \geq P_x$	$P_{\text{actual}} \geq \text{ID158 'Power threshold'}$	■	■	-	■
400	Cam	Cam, cam signal, homing switch	-	■	-	■
403	Homing point known	Homing point is valid	-	■	-	■
409	Measured value 1 positive edge detected (MT1)	Actual position value is stored in ID130 'Probe value 1 positive edge'	-	■	-	■
410	Measured value 1 negative edge detected (MT1)	Actual position value is stored in ID131 'Probe value 1 negative edge'	-	■	-	■
411	Measured value 2 positive edge detected (MT2)	Actual position value is stored in ID132 'Probe value 2 positive edge'	-	■	-	■
412	Measured value 2 negative edge detected (MT2)	Actual position value is stored in ID133 'Probe value 2 negative edge'	-	■	-	■
33013	$x_{\text{actual}} \leq$ -Soft end position limit switch	ID50 'Negative position limit' reached	-	■	-	■
33014	Position synchronization	$ \text{position control difference} \leq \text{ID32952 'At synchronous speed window'}$	-	■	-	■

Code	Designation	Description	KW-R24 /	KW-R24-R / KW-R25 / KW-R26 / KW-R27 /	KE (N,S) / KE (N,S)-xEx /	iX / iC / iDT5 / iX(-R3) / iC(-R3) / iDT5 (-R3) /
33015	$X_{\text{actual}} \geq +\text{Soft end position limit switch}$	ID49 'Positive position limit' reached	-	■	-	■
33016	Warning: Converter overcurrent	Maximum load integral i^2t of the converter according to ID32999 'Overload limit inverter', diagnostic message 2357 'Device overload warning'	■	■	■	■
33017	Warning: excess converter temperature	Temperature of the device rear wall or value according to the temperature model is too high, diagnostic message 2350 'Device temperature warning'	■	■	■	■
33018	Warning: excess motor temperature	Value at the sensor input X12 or according to ID34166 'Temperature sensor motor' is too high, diagnostic message 2359 'Motor overload warning'	■	■	-	■
33021	Warning: excess air temperature	Diagnosis 1073 'Cooling Air Temperature Warning'	■	■	-	■
33022	Warning: excess temperature of external components	KW-R06 / KW-R16 / KW-R07 / KW-R17 / KE(N,S) / KE(N,S)-xEx / KW-R24 / KW-R24-R / KW-R25 / KW-R26 / KW-R27 / Power supply KE(N,S): Brake resistor iX / iC / iDT5 / Reserved	■	■	■	■
33029	System ready message (SBM)	System ready message	■	■	■	■
33030	Acknowledgement DC bus ON (QUE)	Acknowledgement DC bus charged	■	■	■	■
33031	Acknowledgement controller enable (QRF)	Acknowledgement that the drive is operating in control loop	■	■	-	■
33032	Controller enable (RF) set	Control input of controller enable set	■	■	-	■
33034	Commanding (KMD) active	Drive function is active	■	■	-	■
33035	Interpolator (IPO) active	Internal interpolator is active	-	■	-	■
33036	Homing point known	Homing point is valid	-	■	-	■
33040	Input bit 0 active	Acknowledgement of binary input E1 according to ID32874 'Port 1 Bit 0'	-	-	-	-
33041	Input bit 1 active	Acknowledgement of binary input E2 according to ID32875 'Port 1 Bit 1'	-	-	-	-
33042	Input bit 2 active	Acknowledgement of binary input E3 according to ID32876 'Port 1 Bit 2'	-	-	-	-
33043	Input bit 3 active	Acknowledgement of binary input E4 according to ID32877 'Port 1 Bit 3'	-	-	-	-
33044	Input bit 4 active	Acknowledgement of binary input E5 according to ID32878 'Port 1 Bit 4'	-	-	-	-
33045	Input bit 5 active	Acknowledgement of binary input E6 according to ID32879 'Port 1 Bit 5'	-	-	-	-
33046	Input bit 6 active	Acknowledgement of binary input E7 according to ID32880 'Port 1 Bit 6'	-	-	-	-

Code	Designation	Description	KW-R24 /	KW-R24-R / KW-R25 / KW-R26 / KW-R27 /	KE (N,S) / KE (N,S)-xEx /	iX / iC / iDT5 / iX(-R3) / iC(-R3) / iDT5 (-R3) /
33047	Input bit 7 active	Acknowledgement of binary input E8 according to ID32881 'Port 1 Bit 7'	-	-	-	-
33048	Residual distance deleted	dx > ID32922 'Residual distance erase window'	-	■	-	■
33052	Control of the motor holding brake	Controlling motor holding brake BA3 = 0: Motor holding brake is closed by the drive BA3 = 1: Motor holding brake is opened by the drive This parameter is used by the following function: 'Controlling motor holding brake'	■	■	-	■
33058	Parameter set 0 active	Valid from QRF message	■	■	-	■
33059	Parameter set 1 active	Valid from QRF message	■	■	-	■
33060	Parameter set 2 active	Valid from QRF message	■	■	-	■
33061	Parameter set 3 active	Valid from QRF message	■	■	-	■
33062	Main operating mode active	ID32800 'AMK main operating mode' is active	■	■	-	■
33063	Secondary operating mode 1 active	ID32801 'AMK secondary operating mode 1' is active	■	■	-	■
33064	Secondary operating mode 2 active	ID32802 'AMK secondary operating mode 2' is active	■	■	-	■
33065	Secondary operating mode 3 active	ID32803 'AMK secondary operating mode 3' is active	■	■	-	■
33066	Secondary operating mode 4 active	ID32804 'AMK secondary operating mode 4' is active	■	■	-	■
33067	Secondary operating mode 5 active	ID32805 'AMK secondary operating mode 5' is active	■	■	-	■
33068	AMK secondary operating mode 6 active	ID32806 'AMK secondary operating mode 6' is active	■	■	-	■
33069	AMK secondary operating mode 7 active	ID32807 'AMK digital torque control' is active	■	■	-	■
33070	AMK secondary operating mode 8 active	ID32808 'AMK position control' is active	-	■	-	■
33071	AMK secondary operating mode 9 active	ID32809 'AMK digital speed control' is active	■	■	-	■
33074	Collective warning active	Collective warning (all warning messages OR linked) The warning bit is generated for each warning and remains active until the error is deleted by the user.	■	■	■	■

Code	Designation	Description	KW-R24 /	KW-R24-R / KW-R25 / KW-R26 / KW-R27 /	KE (N,S) / KE (N,S)-xEx /	iX / iC / iDT5 / iX(-R3) / iC(-R3) / iDT5 (-R3) /
33075	Fan triggering	Signal for triggering a fan at the compact power supply; the signal is switched on at 78% of the shutdown temperature. If the temperature is fallen below, the fan runs for another 1 minute. AMK service (shutdown temperature [0.1%] SEEP ID34060 Element 39) (special lift feature)	-	-	■	-
33076	Second cycle output	The output changes cyclically between 1 second ON and 1 second OFF	■	■	■ ⁴⁾	■
33079	Output 24 V DC	Configure the binary output as voltage supply (note the max. current load of the devices!)	■	■	-	■
33123	VBX	For the uninterruptible power supply triggering (extend mains failure display)	-	-	■	-
33131	Stop acknowledgement for positive setpoint processing	Positive setpoint settings in position or speed control are not carried out	■	■	-	■
33132	Stop acknowledgement for negative setpoint processing	Negative setpoint settings in position or speed control are not carried out	■	■	-	■
33133	Power output stage enable control signal (EF AND EF2)	The input signal EF AND EF2 is mirrored at the binary output, which, for example, can be read by a PLC.	■	■	-	-
33135	Power output stage enable control signal (EF2)	KW-R06 / KW-R16 / KW-R07 / KW-R17 / KW-R24 / KW-R24-R / KW-R25 / KW-R26 / KW-R27 / The input signal EF2 is mirrored at the binary output, which, for example, can be read by a PLC. iX / iC / iDT5 / iDP7 / Internal generated STO signal (2nd channel)	■	■	-	■
33136	Power output stage enable control signal (EF or STO)	The input signal EF or STO is mirrored at the binary output, which, for example, can be read by a PLC.	■	■	-	■
33142	Acknowledgment software commutation	The function software commutation for synchronous motors with I- or square-wave encoders has been successfully executed, the motor is commutated. If an encoder error, the bit is cleared. The software commutation runs automatically after a 0 → 1 edge of the signal controller enable (RF).	■	■		■
33919	'Warning: overload of external mains components'		-	-	■	-
33920	'Warning: BRN readiness of the mains regeneration'	This output is logically 1 when the regeneration in compact power supply(S) is briefly inactive due to the mains voltage or overcurrent error. The pulse duration is at least 22 ms.	-	-	■	-

Code	Designation	Description	KW-R24 /	KW-R24-R / KW-R25 / KW-R26 / KW-R27 /	KE (N,S) / KE (N,S)-xEx /	iX / iC / iDT5 / iX(-R3) / iC(-R3) / iDT5 (-R3) /
33921	PWM inactive	Display status if the power output stage is energized or free of current = 0 PWM is active, pulses are enabled, power output stage is energized = 1 PWM is inactive, pulses are disabled, power output stage is free of current	■	■	-	■
33922	Encoder signal invalid	Display status if the encoder signal is valid or an encoder failure occurs = 0 Encoder signal valid = 1 Encoder signal is invalid, encoder failure	-	■	-	■
33923	Deceleration ramp after RF inactive	Display status if deceleration after internal switch off RF is active = 0 normal operation = 1 Deceleration active, according to ID32782 'Deceleration ramp RF inactive'	■	■	-	■
33924	Dynamic braking (Regenerative braking if encoder failure)	Display status if the function 'Dynamic braking' is active: = 0 normal operation = 1 Dynamic braking is active	-	■	-	■
33925	Status of a connected brake	= 0 brake closed = 1 brake opened See 'Codes for the configuration of the binary inputs' on page 11. Code 33906	■	■	-	■ ⁶⁾
33930	Input bit 0 port 3 ³⁾	The status of the input bits at the device can be assigned to a binary output	■	■	-	■
33931	Input bit 1 port 3 ³⁾		■	■	-	■
33932	Input bit 2 port 3 ³⁾		■	■	-	■
33933	Input bit 3 port 3 ³⁾		■	■	-	■
33934	Input bit 4 port 3 ³⁾		■	■	-	■
33935	Input bit 5 port 3 ³⁾		■	■	-	■
33936	Input bit 6 port 3 ³⁾		■	■	-	■
33937	Input bit 7 port 3 ³⁾		■	■	-	■
33942	Access via plc	The output can be written by a plc controller	■	■	■	■

3) Available depending on the hardware

5) Not available for ihXT

6) only for: iX(-R3) / iC(-R3) / iDT5(-R3) / ihXT /

1.2 Codes for the configuration of the binary inputs

Codes for the configuration of the binary inputs

Code	Designation	Description	KW-R24 /	KW-R24-R / KW-R25 / KW-R26 / KW-R27 /	KE (N,S)-xEx /	iX / iC / iDT5 / iX(-R3) / iC(-R3) / iDT5 (-R3) /
0	Function inactive	No function assigned to the binary input	■	■	■	■
400	Homing switch (cam)	For cam see 32905	-	■	-	■
401	Touch probe (MT1)	Measurement signal 1 for touch probe function only at BE3 (ID32980 'Port 3 Bit 2')	-	■	-	■
402	Touch probe (MT2)	Measurement signal 2 for touch probe function only at BE2 (ID32979 'Port 3 Bit 1')	-	■	-	■
32903	DC bus ON (UE)	Charge DC bus	■	■	■	■
32904	Controller enable (RF)	Activate control	■	■	-	■
32905	Homing switch (cam)	Cam signal, e.g. for the homing cycle	-	■	-	■
32912	Reset "homing point known"	Clear "homing point known"	-	■	-	■
32913	Clear error (FL)	Existing errors in the drive are reset	■	■	■	■
33700	Activate main operating mode	Change operating mode to the main operating mode (ID32800 'AMK main operating mode')	■	■	-	■
33701	Activate secondary operating mode 1	Change operating mode to the auxiliary operating mode 1 (ID32801 'AMK secondary operating mode 1')	■	■	-	■
33702	Activate secondary operating mode 2	Change operating mode to the auxiliary operating mode 2 (ID32802 'AMK secondary operating mode 2')	■	■	-	■
33703	Activate secondary operating mode 3	Change operating mode to the auxiliary operating mode 3 (ID32803 'AMK secondary operating mode 3')	■	■	-	■
33704	Activate secondary operating mode 4	Change operating mode to the auxiliary operating mode 4 (ID32804 'AMK secondary operating mode 4')	■	■	-	■
33705	Activate secondary operating mode 5	Change operating mode to the auxiliary operating mode 5 (ID32805 'AMK secondary operating mode 5')	■	■	-	■
33708	Stop / cancel CMD	The drive changes to the operating mode of digital speed control with the setpoint 0 regardless of the current operating mode	■	■	-	■
33709	Dig. Speed control N = 0 U/min	CMD digital speed control Speed setpoint N-setpoint= 0, ramp active	■	■	-	■
33710	Dig. Speed control N = ID36	CMD digital speed control Speed setpoint N-setpoint ID36, ramp active	■	■	-	■
33711	Homing cycle	CMD homing cycle for homing point (Xi=0)	-	■	-	■
33721	Dig. Torque control M = 0 %Nm	CMD digital torque control Torque setpoint M-setpoint = 0	■	■	-	■
33722	Dig. Torque control M = ID80	CMD digital torque control Torque setpoint M-setpoint = ID80	■	■	-	■

Code	Designation	Description	KW-R24 /	KW-R24-R / KW-R25 / KW-R26 / KW-R27 /	KE (N,S)-xEx /	iX / iC / iDT5 / iX(-R3) / iC(-R3) / iDT5 (-R3) /
33727	Extended I/O control	This parameter is used by the following function: 'Binary I/O control'	-	-	-	■
33730	System booting	Complete parameter calculation for inactive controller enable. The recalculation otherwise takes place only after the mains is on, error cleared and RF is activated after changing the parameter.	-	-	■	-
33735	Control of the motor holding brake	Manual control of the motor holding brake via digital input 0 → 1 edge: Open motor holding brake 1 → 0 edge: Close motor holding brake This parameter is used by the following function: 'Controlling motor holding brake'	■	■	-	■
33906	Acknowledgement signal of the motor holding brake (QBR)	Acknowledgement motor holding brake (QBR) QBR = 1: Motor holding brake closed QBR = 0: motor holding brake opened (QBR is supplied by the motor holding brake) This parameter is used by the following function: 'Controlling motor holding brake'	■	■	-	■
33909	Stop positive setpoint processing	If the configured binary input falls to zero volts (low active), the setpoint block takes place in the position or speed control within 2 ms. If the input is set, the setpoint enable takes place within 2 ms.	■	■	-	■
33910	Stop negative setpoint processing	If the configured binary input falls to zero volts (low active), the setpoint block takes place in the position or speed control within 2 ms. If the input is set, the setpoint enable takes place within 2 ms.	■	■	-	■
33917	Analog speed control	Selection of the analogue input with the analogue speed control (ID32800 - ID32809 'AMK operating modes')	-	-	-	■
33938	Extended I/O control	This parameter is used by the following function: 'Binary I/O control'	-	-	-	■
33939	Extended I/O control	This parameter is used by the following function: 'Binary I/O control'	-	-	-	■

Code	Designation	Description	KW-R24 /	KW-R24-R / KW-R25 / KW-R26 / KW-R27 /	KE (N,S)-xEx /	iX / iC / iDT5 / iX(-R3) / iC(-R3) / iDT5 (-R3) /
33940	Hardware limit switch positive direction	The drive is braking according ID32782 'Deceleration ramp RF inactive' until standstill and switch off the controller enable signal, if a signal is active on this input. The controller enable signal must be set again, that the drive can be moved off the hardware limit switch in opposite direction.	-	■	-	■
33941	Hardware limit switch negative direction	The hardware limit switch function is not active if the function homing cycle with hardware limit switch evaluation (ID147 bit 9) is active!	-	■	-	■

1) Not available for ihXT