

**FB61 - <offline>**

"DoZeroSrc" Do zero search command  
**Nom :** DoZero **Famille :** MAC  
**Auteur :** arp **Version :** 1.0  
**Version de bloc :** 2  
**Horodatage Code :** 16/08/2010 15:54:35  
**Interface :** 07/06/2006 14:26:57  
**Longueur (bloc/code /données locales) :** 00484 00326 00000

Nom	Type de données	Adresse	Valeur initiale	Commentaire
IN		0.0		
TypeOfSearch	Int	0.0	0	Type of zeresearch
PosOffset	DInt	2.0	L#0	forskydning
SearchVel	DInt	6.0	L#0	Maximumspeed during zeresearch
SearchTorq	DInt	10.0	L#0	torque limit during zeresearch
IsMac800	Bool	14.0	FALSE	Type of motor, True = MAC400/800 motor
NodeAdr	Int	16.0	0	Start address of the node wanted
OUT		0.0		
IN_OUT		0.0		
STAT		0.0		
TEMP		0.0		

**Bloc : FB61 DoZeroSearch for servo**

Sequence: Disable servo,  
send type, wait accept,  
send PosOffset, wait accept, send  
Searchvelocity, wait accept,  
send SearchTorq, wait accept,  
Activate search (Enable), wait  
InPosition, End.

Réseau : 1 Sequence step 7, the last

Step 6

U	"WriteParmSub"	M0.0	-- Activate sub
FN	M	96.5	
U	"Step6Zero"	M98.5	-- Sequence for DoZeroSrc
S	"Step7Zero"	M98.6	-- Sequence for DoZeroSrc
R	"Step6Zero"	M98.5	-- Sequence for DoZeroSrc

Réseau : 2	Sequence step 6
Step 6	

U	"WriteParmSub"	M0.0	-- Activate sub
FN	M	96.4	
U	"Step5Zero"	M98.4	-- Sequence for DoZeroSrc
S	"Step6Zero"	M98.5	-- Sequence for DoZeroSrc
R	"Step5Zero"	M98.4	-- Sequence for DoZeroSrc

Réseau : 3	Sequence step 5
Step 5,	

U	"WriteParmSub"	M0.0	-- Activa
			te sub
FN	M	96.3	
U	"Step4Zero"	M98.3	-- Sequen
			ce for DoZeroSrc
S	"Step5Zero"	M98.4	-- Sequen
			ce for DoZeroSrc
S	"DoFastMacSub"	//Set call for FastMAC command	M0.2
		MAC servo	te sub
R	"Step4Zero"	M98.3	-- Sequen
			ce for DoZeroSrc

Réseau : 4	Sequence step4
Step 4	

U	"WriteParmSub"	M0.0	-- Activate sub
FN	M	96.2	
U	"Step3Zero"	M98.2	-- Sequence for DoZeroSrc
S	"Step4Zero"	M98.3	-- Sequence for DoZeroSrc
R	"Step3Zero"	M98.2	-- Sequence for DoZeroSrc

Réseau : 5	Sequence step3
Step 3, Tranfer V_HOME parameter	

U	"WriteParmSub"	M0.0	-- Activate sub
FN	M	96.1	
U	"Step2Zero"	M98.1	-- Sequence for DoZeroSrc
S	"Step3Zero"	M98.2	-- Sequence for DoZeroSrc
R	"Step2Zero"	M98.1	-- Sequence for DoZeroSrc

Réseau : 6	Sequence step2
Step 2, Transfer T_HOME parameter	

U	"DoFastMacSub"	M0.2	-- Activate sub
FN	"Flank1Zero"	M96.0	-- Positive flank bit Zero
U	"Step1Zero"	M98.0	-- Sequence for DoZeroSrc
S	"Step2Zero"	M98.1	-- Sequence for DoZeroSrc
R	"Step1Zero"	M98.0	-- Sequence for DoZeroSrc

Réseau : 7	Sequence step1, the first
Step 1, Passivate MAC by sending an FlexMac = 0 command	

U	"DoZeroSearchSub"	M0.3	-- Activate sub
UN	"Zerosearching"	M99.6	-- On during zerosearch
S	"Step1Zero"	M98.0	-- Sequence for DoZeroSrc
S	"Zerosearching"	M99.6	-- On during zerosearch

Réseau : 8	Parameters for Disable servodrive
Parameter to step1, Diasble MAC	

U	"Step1Zero"	M98.0	-- Sequ
		ence for DoZeroSrc	
U	"Step1Zero"	M98.0	-- Sequ
		ence for DoZeroSrc	
SPBN	no1		
L	0	//Disable drive command	
T	"Flexmac Command"	MW120	-- Comm
		and number	
L	#NodeAdr		
T	"Flexmac Nodeadr"	MW122	-- Star
		t address of the node at p	
		rofibus	

Réseau : 9	Parameters for homing torque, register 41
Parameter to step2, torque home	

no1: U	"Step2Zero"	M98.1	-- Sequenc
		e for DoZeroSrc	
U	"Step2Zero"	M98.1	-- Sequenc
		e for DoZeroSrc	
SPBN	no2		
L	41		
T	"WrReg"	//Write to register no.41 T_HOM	
		E	
		MW104	-- Registe
		r number to write	
L	#SearchTorq		
T	"WrValue"	MD100	-- Value t
		o register write	
L	#NodeAdr		
T	"WrNodeAdr"	MW106	-- Start a
		ddress of the node at profibu	
		s	
U	"Step2Zero"	//velocity is only 16 bit comma	
		nd	
		M98.1	-- Sequenc
		e for DoZeroSrc	
R	"Wr32bitCmd"	//reset cmd for 32 bit	
		M90.0	-- 32 bit
		command handling	

Réseau : 10	Parameters for homing speed, register 40
-------------	--

no2: U	"Step3Zero"	M98.2	-- Sequenc
		e for DoZeroSrc	
U	"Step3Zero"	M98.2	-- Sequenc
		e for DoZeroSrc	
SPBN	no3		
L	40		

T	"WrReg"	//Write to register no.40 V_HOM	MW104	-- Register number to write
L	#SearchVel			
T	"WrValue"		MD100	-- Value to register write
L	#NodeAdr			
T	"WrNodeAdr"		MW106	-- Start address of the node at profibus
U	"Step3Zero"	//velocity is only 16 bit command	M98.2	-- Sequence for DoZeroSrc
R	"Wr32bitCmd"	//reset cmd for 32 bit	M90.0	-- 32 bit command handling

Réseau : 11	Parameters for homing mode, register 38
-------------	---

Modes 12..14 are available.
-----------------------------

no3:	U	"Step4Zero"		M98.3	-- Sequence for DoZeroSrc
	U	"Step4Zero"		M98.3	-- Sequence for DoZeroSrc
	SPBN	no4			
	L	38			
	T	"WrReg"	//Write to register no.38 P_HOM	MW104	-- Register number to write
	L	#PosOffset			
	T	"WrValue"		MD100	-- Value to register write
	L	#NodeAdr			
	T	"WrNodeAdr"		MW106	-- Start address of the node at profibus
	U	"Step4Zero"	//velocity is 32 bit command	M98.3	-- Sequence for DoZeroSrc
	S	"Wr32bitCmd"	//set cmd for 32 bit	M90.0	-- 32 bit command handling

Réseau : 12
-------------

Parameter to step5, STARTMODE REG Tell MAC to go into Position mode after Zero setting
---

no4:	U	"Step5Zero"		M98.4	-- Sequence for DoZeroSrc
	U	"Step5Zero"		M98.4	-- Sequence for DoZeroSrc
	SPBN	no5			
	L	37			
	T	"WrReg"	//Write to register no.37 STARTMODE REG = 2	MW104	-- Register number to write
	L	2			
	T	"WrValue"		MD100	-- Value to register write
	L	#NodeAdr			
	T	"WrNodeAdr"		MW106	-- Start address of the node at profibus
	U	"Step5Zero"	//velocity is 32 bit command	M98.4	-- Sequence for DoZeroSrc
	S	"Wr32bitCmd"	//set cmd for 32 bit	M90.0	-- 32 bit command handling

Réseau : 13 Enable MAC in position mode				
Parameter to step6, activate zero setting through MODE_REG				
no5:	U	"Step6Zero"	M98.5	-- Sequence for DoZeroSrc
	U	"Step6Zero"	M98.5	-- Sequence for DoZeroSrc
	SPBN	no6		
	L	2		
	T	"WrReg" //Write to register no.2 MODE_REG	MW104	-- Register number to write
	L	#TypeOfSearch		
	T	"WrValue"	MD100	-- Value to register write
	L	#NodeAdr		
	T	"WrNodeAdr"	MW106	-- Start address of the node at profibus
	U	"Step6Zero" //velocity is 32 bit command	M98.5	-- Sequence for DoZeroSrc
	S	"Wr32bitCmd" //set cmd for 32 bit	M90.0	-- 32 bit command handling

Réseau : 14 Second flank activate				
Step 1 activate command, DoFastMac, Do MAC motor passive				
no6:	U	"Step1Zero"	M98.0	-- Sequence for DoZeroSrc
	S	"DoFastMacSub"	M0.2	-- Activate sub

Réseau : 15 Second flank activate				
Step 2 activate command, "WriteParmSub"				
	U	"Step2Zero"	M98.1	-- Sequence for DoZeroSrc
	S	"WriteParmSub"	M0.0	-- Activate sub

Réseau : 16 Third flank activate				
Step 1 to 4 positive flank should set "WriteParmSub"				
	U	"Step3Zero"	M98.2	-- Sequence for DoZeroSrc
	S	"WriteParmSub"	M0.0	-- Activate sub

Réseau : 17 Fourth flank activate				
Step 1 to 4 positive flank should set "WriteParmSub"				
	U	"Step4Zero"	M98.3	-- Sequence for DoZeroSrc
	S	"WriteParmSub"	M0.0	-- Activate sub

Réseau : 18	Fourth flank activate
-------------	-----------------------

Step 1 to 4 positive flank should set "WriteParmSub"
--

```

U   "Step5Zero"      M98.4      -- Sequence for DoZeroSrc
S   "WriteParmSub"   M0.0      -- Activate sub

```

Réseau : 19	Fifth flank activate
-------------	----------------------

Step 1 to 4 positive flank should set "WriteParmSub"
--

```

U   "Step6Zero"      M98.5      -- Sequence for DoZeroSrc
S   "WriteParmSub"   M0.0      -- Activate sub

```

Réseau : 20	Await "in position" signal and reset calling bit
-------------	--

Respond from servo, comes after a while when read toggle in command status is equal to read toggle in command.
--

```
//afventerIn Position signal going on
```

```

U   "Step7Zero"      //read In position flag for M98.6      -- Sequ
                           level                       ence for DoZeroSrc
U   E [AR1,P#4.4]    //read In position flag for level
SPBN wait            //if not ready jump over function end

```

```
//Function end
```

```

U   "DoZeroSearchSub"      M0.3      -- Acti
                           vate sub
R   "DoZeroSearchSub"     //reset call bit      M0.3      -- Acti
                           vate sub
R   "Zerosearching"      //reset order sent work bit M99.6      -- On d
                           uring zerosearch
L   0
T   MB 94                //Reset flank bits
T   MB 96
T   MB 98
wait: U   "Dummy"        M1.0
      =   "Dummy"        M1.0

BE

```

Réseau : 21
-------------

```

U   M 94.0
U   M 94.1

U   M 94.2
U   M 94.3
U   M 94.4
U   M 94.5
U   M 94.6
U   M 94.7

```