



DAG System

ISO 15693 Long Range Reader Industrial version Datasheet

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History :

Revision	Date	Modifications
1	03/02/2003	Creation
2	20/04/2004	Update
3	01/06/2004	Update
4	08/29/2005	Add missing order BK, BZ, SH, AS 15693-3 order
5	28/03/2006	Separate 15693-3 order & add antenna address
6	11/12/2003	Update NB_BLOCK

Communication parameters:

115200 bauds, 8 bits, no parity, 1 stop

Structure of frame:

STX + code function + TAB (→) + message + CR (↵)

STX (↵) = 0x02

TAB (→) = 0x09

CR (↵) = 0x0D

All the data are in ASCII.





LISTE OF COMMANDS:

Description	Computer → Slave	Computer ← Slave
Detection		↵ 00 → SRC → CPT → DATA ↵
Get output level	pw ↵	↵ PW → PWR ↵
Set output level	PW PWR ↵	↵ PW → PWR ↵
Get number of time slot	ts ↵	↵ TS → NB_TS ↵
Set number of time slot	TS NB_TS ↵	↵ TS → NB_TS ↵
Get number first block to read	bk ↵	↵ BK → FIRST_BLOCK ↵
Set first block to read	BK FIRST_BLOCK ↵	↵ BK → FIRST_BLOCK ↵
Get number of block to read	nb ↵	↵ NB → NB_BLOCK ↵
Set number of block to read	NB NB_BLOCK ↵	↵ NB → NB_BLOCK ↵
Get version	v? ↵	↵ V = → VERSION ↵
Get transmission mode	tx ↵	↵ TX → TX_MODE ↵
Set transmission mode	TX TX_MODE ↵	↵ TX → TX_MODE ↵
Switch output level	AP AP_STATUS ↵	↵ AP → AP_STATUS ↵
Tune Antenna	RA SRC ↵	↵ #SYSTEM_STATUS ↵
Unselected Read	UR ↵	↵ UR ↵
Anticoll select	AS ↵	↵ AS ↵
Anticoll select detection		↵ SN → SRC → SERIAL_NUMBER ↵
Anticoll select + HALT	AH ↵	↵ SN → SRC → SERIAL_NUMBER ↵





Write first time	WD BLOCK DATA_WRITE ↵	↵SN→SRC →WRITE_SERIAL_NUMBER ↵
Write when DAG is already in the field	W2 BLOCK DATA_WRITE ↵	↵SN→SRC →WRITE_SERIAL_NUMBER ↵
Disable all RFID operation	SO ↵	↵SO ↵
Save the next parameter	SV ↵	↵SV→00001 ↵



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FIELDS OF VARIABLES:

Name	Description	Length	Field
CPT	Counter of detection	2	00 → FF (HEXA)
SRC	Source of message	2	02 → antenna connected to IOSD 2 03 → antenna connected to IOSD 3 04 → antenna connected to IOSD 4 05 → antenna connected to IOSD 5
DATA	Data read in the chip	8*NB_BLOCK	HEXA
PWR	Output level	5	0 → 1000
NB_TS	Number of time slot (only for ICODE)	5	0 → 1 time slot 1 → 1 time slot 2 → 16 time slot
NB_BLOCK	(Number-1) of block to be read	5	0 → 2 Be careful FIRST_BLOCK + NB_BLOCK should not be greater than memory space
FIRST_BLOCK	First block to be read	5	0 → 15 Be careful FIRST_BLOCK + NB_BLOCK should not be greater than memory space
VERSION	Firmware version	6	VERSION[0..3] → firmware version VERSION[4] → chip manufacturer 9 → PHILIPS 8 → INSIDE VERSION[5] → Type of chip 0 → ICODE SL1 for PHILIPS 1 → PICOTAG 2K
TX_MODE	Mode to transmit detections	5	0 → no transmission of detection 1 → transmission of detection





			5 → transmission of detection and serial number
AP_STATUS	State of the output driver	5	0 → OFF no output level 1 → ON output level = PWR
SYSTEM_STATUS	Current state of the reader	1	1 → looking for antenna 3 → antenna OK 4 → error antenna tuning 6 → Power on reset X → System LOCK
BLOCK	Block to write	2	00 → 09
DATA_WRITE	Data to write	8	HEXA
SERIAL_NUMBER	Serial number of the chip	16	HEXA
WRITE_SERIAL_NUMBER	Serial number of the chip, response to write operation	16	HEXA 0000000000000001 → No DAG found 0000000000000002 → Write error 0000000000000003 → Read error Other → write OK



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Operating rules:

1) Standard writing operation:

- When power on the reader, it is able to read DAG.
- To transmit data on serial, send **TX5**.
- To write data in DAG:
 - 1) Stop operation: **SO**
 - 2) Put the DAG in the field
 - 3) Start writes: **WD XX XXXXXXXXX**
 - 4) To read data go to step 7, else keep the DAG in the field
 - 5) To write another data: **WD XX XXXXXXXXX**
 - 6) To write another data go to step 5
 - 7) To read data put the DAG outside the field
 - 8) Start reading: **UR**
 - 9) When you put the DAG in the field, you read the data for the number of block selected

- You can write one block at each time
- Size block
4 bytes max

2) Using AS command:

This command allows you to select a DAG and read serial number regardless FIRST_BLOCK and NB_BLOCK parameter.

Serial number is read endless

3) Using AH command:

Serial number is read once, and the DAG enter in HALT MODE

4) Saving parameters:

To save a parameter you have to send before each parameter SV1 ↵
Only NB_TS, FIRST_BLOCK, NB_BLOCK and PW parameter can be saved

