

AX58100 BSP User Guide

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1. Introduction

The AX58100 is a 2/3-port EtherCAT Slave Controller (ESC), licensed from Beckhoff Automation, with two integrated Fast Ethernet PHYs which support 100Mbps full-duplex operation and HP Auto-MDIX. The AX58100 is interoperable with all EtherCAT systems with standard EtherCAT protocols such as CANopen over EtherCAT(CoE), File Access over EtherCAT(FoE), Vendor Specific-protocol over EtherCAT(VoE), etc. The AX58100 provides a cost-effective EtherCAT solution for industrial automation, motion/motor/Digital IO control, Digital to Analog(DAC)/Analog to Digital(ADC) converters control, sensors data acquisition, robotics, etc. industrial fieldbus applications. Users can use this BSP to evaluate/develop their production that target on ASIX AX58100 evaluation board or hardware platform.

2. Directory Information

Directory	Description
Datasheet	AX58100 datasheet
Document	Reference user manual and revision history
ESI_Sample	The related AX58100 EVB ESI samples
Hardware_Design	The related reference schematics, PCB, Layout, Application Design Note and BOM files
SampleCode	Several samples or reference codes
Tools	Configuration tools and utility
AX58100 BSP User Guide	Board Support Package user guide for AX58100

3. Datasheet

File Name	Description
AX58100 Datasheet	AX58100 in chip level description

4. ESI_Sample

File Name	Description
AX58100_DIO_32Input_ESI	ESI sample for AX58100 EVB DIO 32 Input
AX58100_DIO_32Output_ESI	ESI sample for AX58100 EVB DIO 32 Output
AX58100_EVB_DIO_ESI	ESI sample for AX58100 EVB DIO 16 Input/Output
AX58100_Junction_Slave_ESI	ESI sample for AX58100 Junction application

5. Document

File Name	Description
AX58x00 SSC Tool Configuration Import UserGuide	How to import the configuration file of AX58100+STM32F303RE General Purpose / Analog I/O and MotorControl application to generate related source files
AX58x00 TwinCAT User Guide	How to setup entire environment for BECKHOFF TwinCAT on AX58x00 EVB
AX58100 Product Brief	Product brief of AX58100

AX58100 ESI Design Note	ESI design note for AX58100
AX58100 ESI Translator Tool User Guide	User guide of Configure the EtherCAT Slave Information (ESI) file
AX58100 EVB DIO User Guide	User guide of AX58100 EVB Digital I/O Input/Output
AX58100 GpioAio User Guide	User guide of AX58100+STM32F303RE General Purpose / Analog I/O reference design
AX58100 Migration from Beckhoff ET1100 AppNote	User guide of AX58100 Migration from ET1100
AX58100 MotorControl User Guide	User guide of AX58100+STM32F303RE MotorControl reference design
AX58100 Production Introduction	Production introduction of AX58100

6. Hardware_Design

File Name	Description
BOM	The BOM files for AX58100 EVB boards
Layout	The Layout files for AX58100 EVB boards
Layout_Guide	AX58100 Application Design Note
Schematics	The reference and design of AX58100 schematics

7. SampleCode

Folder Name	Description
Ax58100_Bldr	Bootloader
Ax58100_GpioAio	AX58100+STM32F303RE reference code for General Purpose / Analog I/O application
Ax58100_MotorControl	AX58100+STM32F303RE reference code for MotorControl application

8. Tools

File Name	Description
FileInfoAdder.exe	Add file header information utility
AX58100 ESI Translator Tool	Configure the EtherCAT Slave Information (ESI) file

9. Revision History

Revision	Date	Description
V1.00	2025/01/20	Initial release

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