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Android Application Programmer's Guide for ISL29028A ALS-PROX sensor

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1 Introduction

This document describes Application software development guide for "ISL29028A ALS-PROX sensor Driver" which is developed by VVDN for Intersil Corporation.

This Application Programmer's Guide is made for the reference of

- Product managers and QAD at VVDN & Intersil to understand the interface between android application and the sensor device driver.
- Engineering Team at VVDN for System Architecture, Design and development of android application software.
- System Integration and Verification teams at VVDN / Intersil for SW validation.

2 Scope of the document

This document describes the methods by which the android application can interact with the ISL29028A sensor device driver.

3 Android application interface to ISL29028A Sensor Driver

The android application interacts with the ISL29028A device driver in the Linux/Android kernel using the ***sysfs*** files exported by the device driver.

The android application reads/writes a string from/to the **sysfs** file to interact with the ISL29028A ALS sensor. The following table lists the **sysfs** files exported by the ISL29028A driver and valid input/output values.

Path of **sysfs** files in Linux kernel.

Sysfs path: `/sys/intersil/isl29028A/`

SL	SYSFS FILE	R/W	DESCRIPTION	VALID R/W VALUES
1.	mode	R/W	ALS sensor mode control sysfs used to set/get the modes of operation of sensor device	als ir proximity
2.	alsir_range	R/W	Get / Set sensing range [low/high]	125 2000
3.	ir_current	R/W	Get / Set current IR value In mA.	110 220
4.	als_data	R	Get ALS digital data	0 – 4095
5.	ir_data	R	Get ir data value	0 – 4095
6.	intr_perst	R/W	Get/Set the interrupt persistency	1/4/8/16
7.	alsir_high_thres	R/W	Get/Set high ALSIR threshold value	0 – 4095
8.	alsir_low_thres	R/W	Get/Set the Low ALSIR threshold value	0 – 4095
9.	prox_high_thres	R/W	Get/Set the High Proximity Threshold value	0 – 255
10.	prox_low_thres	R/W	Get/Set the Low Proximity Threshold value	0 – 255
11.	prox_data	R	Get proximity data value	0 – 255
12.	prox_status	R	Get the status of proximity	Disable Enable

13.	prox_sleep_t	R/W	Get/Set the Proximity Sleep time	800 400 200 100 75 50 125 0

1. Open the above **sysfs** files in the android application and read/write valid values as shown in above table for interaction with ISL29028A ALS sensor device driver.
2. Reading from a **sysfs** file returns number of bytes read in case of successful read else returns -1 on failure.
3. Writing to a **sysfs** file returns number of bytes written else returns -1 on failure.