

**FT Series Touch Screens
Resistive vs Capacitive
Product Training Module**

Introduction

Purpose:

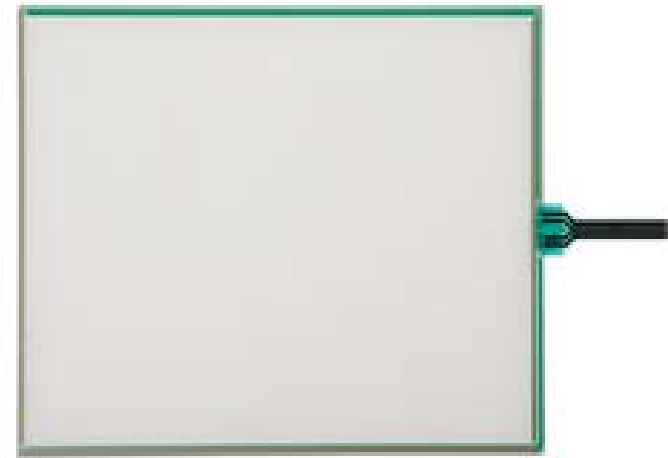
- To provide an overview of the NKK FT Series touch screens
- To present the differences between resistive and capacitive touch screens

Objective:

- Present FT Series features and benefits
- Discuss product options
- Review supporting products
- Present resistive/capacitive characteristics

Contents

- 10 pages



FT Series 4-Wire Analog Resistive Touch Screens

5.7"	6.5"	8.4"	10.4"
10.4"	12.1"	15"	19"
10.6 wide"	12.1 wide"	15.6 wide"	

FT Series 5-Wire Analog Resistive Touch Screens

10.4"	12.1"	15"
-------	-------	-----

FT Series Digital

5.7" (225 keys)



Control Board + IC

Control Board



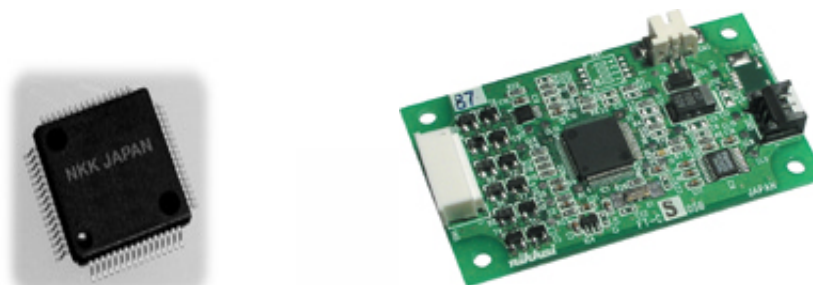
Control IC



	4 Wire	5 Wire
Operational Life	1 million	10 million
Standard Size	5.7" to 19.0"	10.4", 12.1" and 15.0"
Linearity	±1.5% Max	±2.0% Max (After 9 points calibration)
Resistive Value	250 ~ 850Ω, 120 ~ 1500Ω (wide type)	20 ~ 80Ω
Note	Cost effective, Various standard sizes	Do not measure voltage from the upper layer so it's more durable.
Touch Activation Force	1.4N	1.4N
Flexible Printed Circuit	5.7, 6.5, 8.4, 10.4, 10.6 (Wide), 12.1, 12.1 (Wide), 15, 15.6(Wide), 19	

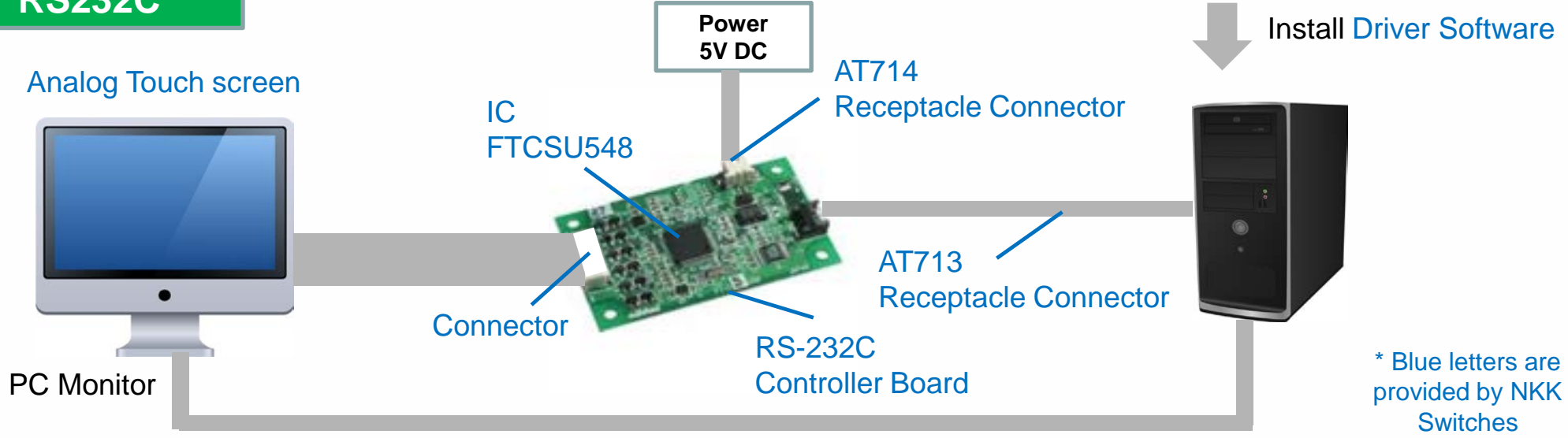
Control Board & IC

Touch screen	Interface	Control IC	Control Board
FT - 4 Wire	RS232C	FT-CSU548	FT-CS04B
	USB		FT-CU04B
FT - 5 Wire	RS232C	FT-CSU548	FT-CS05B
	USB		FT-CU05B

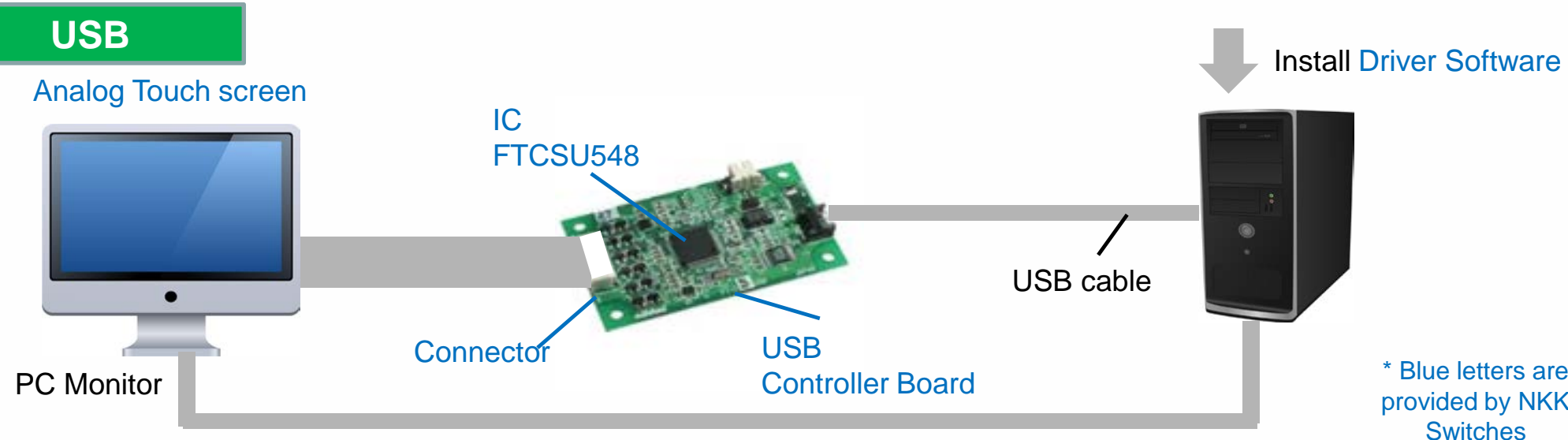


System Configuration for Analog Touch Screen

RS232C



USB



Resistive Touch Screens

- Register input from gloved fingers or stylus.
- High resistance to liquid spills and spatters.

5-Wire FT Series
10 million operations

Cost Effective 4-Wire
FT Series Available



Custom sizes available
through manufacturer

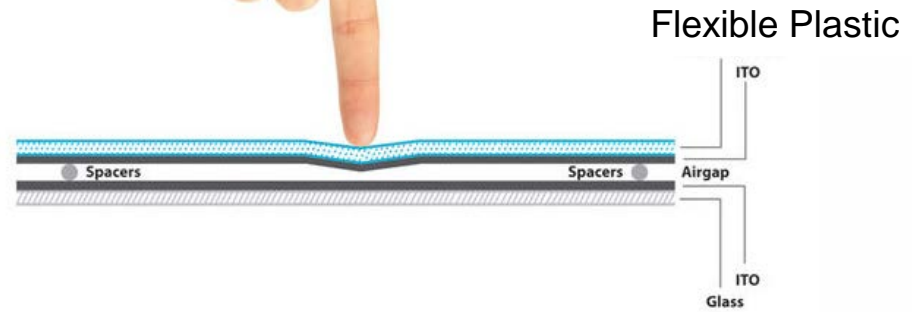
FT Series 4-Wire
available with FPC Tail
for increased contact
reliability

Capacitive Touchscreen



Register a touch with a conductive object (human fingers)

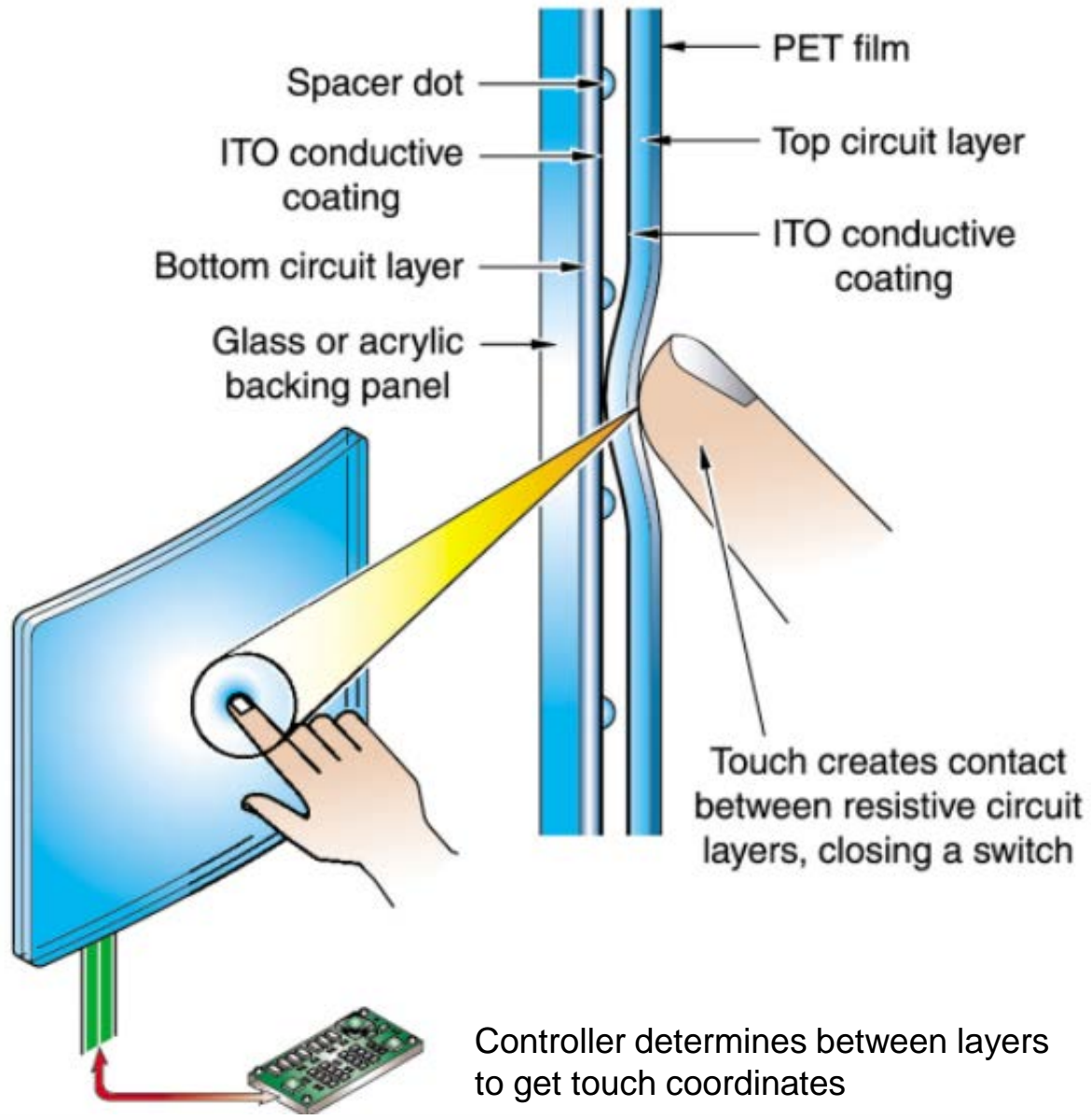
Resistive Touchscreen



Register input by mechanical pressure



Resistive Touch Screen



Capacitive

Capacitive touchscreens are mainly used on Smart Phones, Tablets



Notebook PC and Car Navigation



Consumer Products

Resistive



Industrial applications that require operating with gloved hand or stylus. Various sizes are used.

Applications: medical equipment, industrial measuring machines, factory automation



Industrial Applications

Summary

- Overview of the FT Series touch screens
- Discussed available product options
- Reviewed supporting products
- Presented FT Series features and benefits
- Presented the differences between resistive and capacitive touch screens
- Presented typical applications for resistive and capacitive touch screens

