

## Course description

# G380

# ACS880 operation, startup and basic maintenance hands-on

## Course type

This is a classroom course with hands-on lab activities supported by an instructor. Before this course the theory based e-learning courses, listed in the prerequisites, need to be studied.

## Course Duration

The course duration is 3 day.

## Course Goal

The goal of this course is to teach students to install, startup, adjust and operate ACS880 drives.

## Student Profile

This course is intended for electricians, technicians, and engineers who install, operate and service ACS880 drives. This course is suitable for end user and ABB engineer.

## Prerequisites

- Basic knowledge of electronics
- Experience in using a Windows PC
- E-learning courses G020e, G371e, G374e, G375e, G380e and G3801e. Please refer to the [ACS880-01 learning program](#) for ACS880 course names and durations.

## Description

This course contains hands-on ACS880 exercises. This course belongs to a learning path that may utilize blended learning.

## Course Objectives

Upon completion of this course, students will be able to:

- Commission and tune ACS880 drives
- Operate ACS880 drives
- Do basic maintenance for ACS880-01 drives

## Main Topics

- ACS880 Hardware and software basics
- ACS880 primary control program
- Control panel functions
- ACS880 startup
- Parametrisation of the converter
- Installation principles
- Optional equipment connections
- DriveComposer commissioning and maintenance tool operations

## Course description

# G384

# ACS880-04/04XT and -07 operation, startup and basic maintenance hands-on

## Course type and description

The ACS880 operation, startup and basic maintenance learning event comprises of two parts: e-learning courses and classroom course.

This is the second part of the learning event: This is a classroom course with hands-on lab activities supported by an instructor. This course contains hands-on ACS880 exercises.

The first part of the learning event includes the theory based e-learning courses mentioned below. Please note that the e-learning course material is not covered during the classroom course. You are required to complete the e-learning part before the classroom part, which is essential in order to be able to succeed in the hands-on lab activities during classroom days. The status of e-learning course completion is monitored.

Please see the accompanying figure of possible learning paths

## Prerequisites

- Basic knowledge of electronics
- Course G380
- E-learning courses G3804e, G3847e and G3841e. Please refer to the [ACS880 learning program](#) for ACS880 course names and durations.

## Course duration

The course duration is 1 day.

## Student profile

This course is intended for electricians, technicians, and engineers who maintain, operate and service ACS880-04 and ACS880-07 drives. This course is suitable for end user and ABB engineer.

## Course goal

The goal of this course is to teach students to maintain, startup and operate ACS880 drives.

## Course objectives

Upon completion of this course, students will be able to:

- Commission ACS880-07 drives
- Operate ACS880-07 drives
- Do basic maintenance for ACS880-04 and ACS880-07 drives

## Main topics

- ACS880-04 Location and basic maintenance
- ACS880-07 Location and basic maintenance
- ACS880-07 start up and operation
- ACS880-07 module replacements

## Course description

# G3880

# ACS880 multidrive, operation and maintenance

## Course type and description

The ACS880 multidrive learning event comprises of two parts: e-learning courses and classroom course.

This is the second part of the learning event: classroom course with hands-on lab activities supported by an instructor. The course contains hands-on exercises with ACS880 multidrive units.

The first part of the learning event includes the theory based e-learning courses mentioned below. Please note that the e-learning course material is not covered during the classroom course. You are required to complete the e-learning part before the classroom part, which is essential in order to be able to succeed in the hands-on lab activities during classroom days. The status of e-learning course completion is monitored.

## Prerequisites

Prior to attending this course, students should have

- Basic knowledge of electronics
- Experience in using PCs in the Windows environment
- G3806e and G3808e courses completed.

## Course duration

The course duration is 3 day.

## Student profile

This course is intended for electricians, technicians, and engineers, who install, operate and service ACS880 multidrives. This course is suitable for end user and ABB engineer.

## Course goal

The goal of this course is to teach students to operate, maintain and troubleshoot ACS880 multidrives.

## Course objectives

Upon completion of this course, students will be able to:

- Locate the components of ACS880-07 cabinet
- Exchange the modules
- Create and operate with ACS880 multidrives in PC-Tool Ethernet network

## Main Topics

- ACS880 Primary control program
- R8i module exchange
- Ethernet network with several drives

## Course description

# G381

# ACS880 software features hands-on

### Course type

This is a classroom course with hands-on lab activities supported by an instructor. Before this course the courses, listed in the prerequisites, need to be studied.

### Course Duration

The course duration is 1,5 day.

### Course Goal

The goal of this course is to learn how to use software features of ACS880 primary control program and Drive tool.

### Student Profile

This course is intended for electricians, technicians, and engineers who configure and service ACS880 drives. This course is only for ABB engineer.

### Prerequisites

- Basic knowledge of electronics
- Experience in using a Windows PC
- G380
- E-learning courses G381e, G107e and G376e. Please refer to the [ACS880-01 learning program](#) for ACS880 course names and durations.

### Description

This course contains hands-on ACS880 exercises. This course belongs to a learning path that may utilize blended learning.

### Course Objectives

Upon completion of this course, students will be able to:

- Configure and measure ACS880 drives values
- Use Drive composer pro tool
- Download ACS800 drive and panel program
- Do basic fault tracing for ACS880-01 drives

### Main Topics

- ACS880 with profibus
- ACS880 primary control program features
- Fault tracing
- DriveComposer pro commissioning and maintenance tool operations
- ACS880 drive and Control panel SW downloading

## Course description

# G383

# ACS880 and ACS580 advanced service for single drives

## Course type

This is a classroom course with hands-on lab activities supported by an instructor. Before this course the courses, listed in the prerequisites, need to be studied.

## Course Duration

The course duration is 1 day.

## Course Goal

The goal of this course is to learn how to repair and change the internal components of ACS880 and ACS580 single drives in the onsite environment.

## Student Profile

This course is intended for electricians, technicians, and engineers who do advance maintenance, service and repair for ACS880 and ACS580 single drives. This course is only for ABB DM Division engineer.

## Prerequisites

- Basic knowledge of electronics
- Experience in using a Windows PC
- G380 or G390
- E-learning courses G383e. Please refer to the [ACS880-01 learning program](#) for ACS880 course names and durations.

## Description

This course contains hands-on ACSX80 exercises. This course belongs to a learning path that may utilize blended learning.

## Course Objectives

Upon completion of this course, students will be able to:

- Do the internal measurements for ACS880 and ACS580 single drives
- Change the components for ACS880-01 and ACS580-01
- Do advance maintenance for ACS880-01 and ACS580-01 drives

## Main Topics

- R5 HW and measurement
- R6/7 HW and measurement
- R8/R9 Maintenance
- R9 Hardware

## Course description

# G3831

# ACS880-104 advanced service

### Course type and description

The ACS880 advanced service learning event comprises of two parts: e-learning courses and classroom course.

This is the second part of the learning event, which is a classroom course with hands-on lab activities supported by an instructor. This course contains hands-on ACS880 exercises.

The first part of the learning event includes the theory based e-learning courses and hands on courses mentioned below. Please note that the e-learning course material is not covered during the classroom course. You are required to complete the e-learning part before the classroom part, which is essential in order to be able to succeed in the hands-on lab activities during classroom days. The status of e-learning course completion is monitored.

Please see the accompanying figure of possible learning paths

### Prerequisites

- Basic knowledge of electronics
- Experience in using a Windows PC
- G380, G381, G383

### Course duration

The course duration is 1 day.

### Student profile

This course is intended for electricians, technicians, and engineers who do advance maintenance, service and repair for ACS880 drives. This course is only suitable for ABB DM Division engineer.

### Course goal

The goal of this course is to learn how to repair and change the internal components of ACS880 drives in the onsite environment.

### Course objectives

Upon completion of this course, students will be able to:

- Do the internal measurements for ACS880 drives
- Change the components of ACS880-104
- Do advance maintenance for ACS880-104 drives

### Main topics

- R6i HW and measurement
- R7i HW and measurement
- R8i Maintenance
- D8T Hardware

## Course description

# G3832

## Advanced service for ACS850-04/ACSM1-04/ ACQ810-04/ACS880-04 single module drives

### Course Duration

The course duration is 1 day

### Course type

This is a classroom course with hands-on lab activities supported by an instructor.

### Course Goal

The goal of this course is to introduce students to -04 module drive advanced service tasks.

### Student Profile

This course is intended for expert level service engineers who perform advanced service tasks on ACS850-04, ACQ810-04, ACS880-04 and/or ACSM1-04 module drives. This course is only suitable for ABB DM Division engineer.

### Prerequisites

- Access to IHMM
  - Knowledge about electronics
  - Knowledge about drives concerned
  - Multimeter proficiency
  - English language communication and understanding skills
- Hands on courses: G380, G381, G3831  
E-Learning courses: G380e

### Description

This course contains hands-on exercises with ACS850-04-(G1/G2) OR ACS880-04-(R10/R11) demo units.

### Course Objectives

Upon completion of this course, students will be able to:

- Find service related documents in IHMM
- Understand safe work practices
- Perform useful measurements on drive components
- Perform advanced maintenance tasks on -04 single drive modules

### Main Topics

- Safe work practices
- Safe measurement practices
- Safe component replacement practices
- Control board battery replacement (ZCU)
- STO verification after control board change
- IGBT replacement and measurement
- Primepack service kit and usage
- Rectifier bridge component replacement and measurement
- Current transducer replacement and measurement
- Discharge resistor replacement and measurement
- Charging resistor replacement and measurement
- Capacitor pack replacement
- Some useful measurement on unpowered drive
- IHMM documentation about service
- Spare parts suitcase content

## Course description

# G3851

# ACS880 functional safety configuration with FSO

## Course type and description

The ACS880 functional safety configuration with FSO learning event comprises of two parts: e-learning courses and classroom course.

This is the second part of the learning event: a classroom course with hands-on lab activities supported by an instructor. This course contains hands-on safety exercises. Mandatory exercises have to be done for ABB safety certification.

The first part of the learning event includes the theory based e-learning courses mentioned below. Please note that the e-learning course material is not covered during the classroom course. You are required to complete the e-learning part before the classroom part, which is essential in order to be able to succeed in the hands-on lab activities during classroom days. The status of e-learning course completion is monitored.

Please see the accompanying figure of possible learning paths

## Prerequisites

- Basic knowledge of electronics
- Experience in using a Windows PC
- G380 or 3881
- E-learning courses G111e and G376e or corresponding knowledge about functional safety and G3850e and G3851e
- Please refer to the [ACS880-01 learning program](#) for ACS880 course names and durations.

## Course duration

The course duration is 1.5 day.

## Student profile

This course is intended for electricians, technicians, and engineers who configure and service ACS880 drives with FSO option. This course is only for ABB engineer.

## Course goal

The goal of this course is to learn how to use basic software features of safety functions with FSO –

module, ACS880 primary control program and Drive tool.

## Course objectives

Upon completion of this course, students will be able to:

- Configure and measure ACS880 drives values for safety applications
- Use Drive composer pro tool safety features
- Commission, backup and restore ACS880 drive with safety application
- Do basic fault tracing for ACS880 with safety option

## Main topics

- Safety parameters using Drive composer pro tool
- I/O connections for FSO safety module
- STO function for FSO module
- SBC function for FSO module
- POU function for FSO module
- SSE function for FSO module
- SS1 functions for FSO module
- SLS functions for FSO module
- SMS function for FSO module
- SAR functions with FSO module